

The Attitude, Knowledge and Degree of Awareness about COVID-19 among Population of Himachal Pradesh, India

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Abstract - In December 2019, a pneumonia breakdown was reported in Wuhan city of China. COVID-19 is caused by severe acute respiratory syndrome coronavirus (SARS-COV-2) which is closely related to SARS corona virus. This serious infection associated with high mortality rate and undermined illness. This survey aims to access the attitude, knowledge and degree of awareness about COVID-19 among population of Himachal Pradesh, India. The close ended questionnaires were distributed to a large population, women and men of different ages. The questionnaires include questions of transmission of corona, symptoms, outcome of infection, governmental and medical health care professional's efforts to overcome the spread, the availability of information. Questionnaires were electronic posted in social media (Instagram, Facebook, Whatsapp and etc.) in the form of Google form. The sample size was calculated with the Raosoft sample size calculator which was approximately 150. In this study we received 210 responses in which, 54.3 % were female and 45.7 % were male. According to 64.8 % of respondents social media was the leading source of information. 98.6% of respondents have good knowledge about COVID-19. 93.3% individuals aware about the common symptoms of COVID-19. In conclusion these results proposed that the awareness level about COVID-19 among Himachal Pradesh population is high and the government health education campaign and social media plays a very important role in awareness about COVID-19.

Key Words: COVID-19, Infection, Population, SARS, Viruses

1. INTRODUCTION

In December 2019, a pneumonia breakdown was reported in Wuhan city of China [1]. This virus has an almost similar genetic makeup to a bat corona virus so it is widely questionable to originate from bats [2]. COVID-19 is caused by SARS-CoV-2 which is closely related with SARS corona virus. It is supposed to be a zoonotic in origin with a higher fatality rate. In the absence of an effective vaccine and a specific antiviral treatment, there is an urgent need to find the therapeutics and a proper vaccine [3].

1.2. What is corona virus?

The name was coined in mid 1960s and it was derived from "corona" like or crown like morphology [1]. They are zoonotic, meaning they are transmitted between animals and people. Corona virus are single stranded, non-segmented, positive sense, enveloped, helical RNA virus and also it is the largest among RNA viruses. The packaging of genome into a helical nucleocapsid which is bounded by lipid bilayer. Fig.1 shows the basic structure of the Corona virus.

The envelope contains 3-viral proteins:

- A.) The membrane protein (M)
- B.) The spike protein (S)
- C.) The envelope protein (E)

The spike protein is a main factor in determining the host range [5]. COVID-19 is a respiratory tract infection which is caused by newly emergent corona virus SARS-Cov-2. Most of the people with COVID-19 develop mild illness, 14 % develop severe disease requiring hospitalization and oxygen support and 5 % require admission to ICU [6]. At present, there is no vaccine, as corona virus or COVID-19 is a viral disease so antibiotics should not be used as a means of prevention or treatment. Older people and the one with low immunity are more vulnerable to becoming severely ill with this virus [7].

1.2.1. Listing of human corona viruses [4]:

- 1.) Human corona virus 229E
- 2.) Human corona virus OC43
- 3.) SARS-CoV
- 4.) Human corona viruses NL63
- 5.) COVID-19.
- 6.) Human corona virus HKU.
- 7.) Middle East respiratory syndrome Corona virus previously called as Novel Corona virus 2012

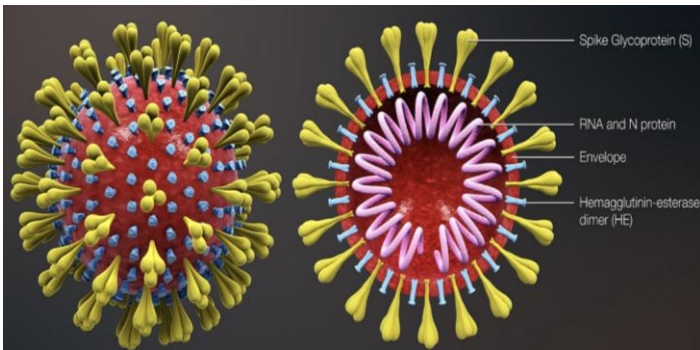


Fig 1: Structure of Corona Virus[4]

1.2.2. Route of transmission:

- 1.) Direct contact with large droplet transmission is suspected as the most likely route. Human to human transmission has occurred in health care settings, among close family contacts and in the work place.
- 2.) Droplets only stay suspended in air for a short time but may stay viable and contagious on a metal, glass or plastic surface[8].

1.2.3. Sign and Symptoms of COVID-19:

The symptoms of COVID-19 appears after incubation period. The period from onset of COVID-19 symptoms to death ranged from 6 to 41 days with the median of 14 days. This period dependent on age of patients and immunity status of patients. Table 1. Shows the different sign and symptoms of COVID-19.

Table 1. Sign and Symptoms of COVID-19[2]

Symptom	%
Conjunctival congestion	0.8 %
Haemoptysis	0.9 %
Diarrhoea	3.7 %
Nasal congestion	4.8 %
Nausea or vomiting	5.0 %
Chills	11.4 %
Headache	13.6 %
Sore throat	13.9 %
Muscle pain and joint pain	14.8 %
Shortness of breath	18.6 %
Sputum production	33.4 %
Fatigue	38.1 %
Dry cough	67.7 %
Fever	87.9 %

1.3. Incubation period:

Ranges from 1 to 14 days, most common 5 days.

1.4. Pathophysiology:

As flow chart of Pathophysiology, Fig. 2 shown that patient infected with COVID-19 have low immunity status. Infected patient showed higher leucocyte count and increase level of pro inflammatory cytokines. The main pathogenesis of COVID-19 infection was severe pneumonia, it targets on a respiratory system. Neutrophils enter the alveoli and fill air containing spaces. This COVID-19 severely interfere the exchange of oxygen and carbon dioxide which leads to hypoxemia. Due to the severity of this disease some of the cases were admitted to intensive care unit (ICU).

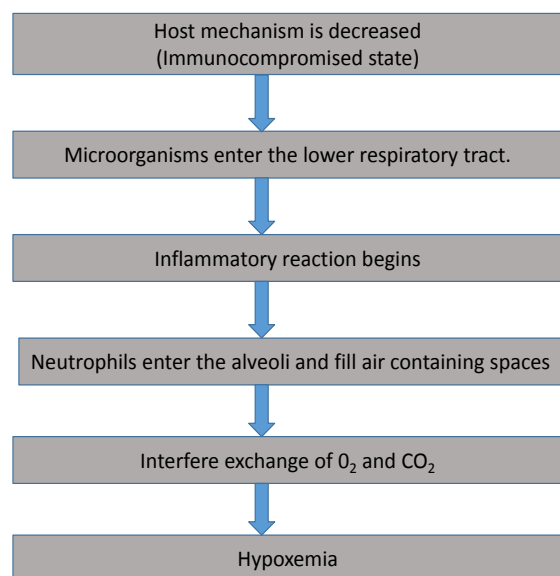


Fig 2: Flow chart of Pathophysiology[9]

1.5. Diagnosis:

- 1.) By reverse transcription PCR of infected secretions (71% Sensitivity)
- 2.) CT imaging (98% Sensitivity)

2. Aim and objective:

This survey aims to access the attitude, knowledge and degree of awareness about COVID-19 among population of Himachal Pradesh, India.

3. METHODS:

The close ended questionnaires were distributed to a large population, women and men of different ages. The questionnaires include questions of transmission of corona, symptoms, outcome of infection, risk factors, , method of prevention, governmental and medical health care professional's action to overcome the spread of COVID-19 and the impact of infection among population of Himachal Pradesh [6-7]. This was a cross-sectional study, a group of

questionnaires were circulated to a large population of Himachal Pradesh. Questionnaires were electronic circulated in social media (Instagram, Facebook, Whatsapp and etc.) in the form of Google form.

3.1. Sample size:

The sample size was calculated using a Raosoft sample size calculator [10],[12] which was available online at <http://www.raosoft.com/samplesize.html>. The marginal sample size estimated was 150 individuals, with a confidence level of 95% and 5% of margin of error. A total of 350 questionnaires have been distributed.

3.2. Data collection and analysis procedure:

We created a questionnaires for a research in order to collect information and the awareness among Himachal individuals about COVID-19 [10]. To do this we frame questions in which we want to find the level of awareness and what they want from our government.

Table 2. Questionnaire Structure

Question No.	Title of Question
Q1.	What is COVID-19
Q2.	Common Symptoms for COVID-19 include
Q3.	Individual with high-risk include
Q4.	Can Coronavirus survived in hot weather
Q5.	Both COVID-19 and SARS are the same
Q6.	Initial screening of Patient should include
Q7.	The most reliable way to protect own self is
Q8.	Do you think the medical professionals is one of the high-risk group for COVID-19 pandemic
Q9.	Do you think the government should provide health insurance to medical and allied professionals
Q10.	Do you think clapping/vibratory sound will kill the coronavirus
Q11.	Do you believe the government and the medical profession doing their work properly
Q12.	Do you believe universal precautions are adequate to prevent the spread of COVID-19 infection
Q13.	Do you think every person should be screened at the hospital
Q14.	Do you think someone spread the virus without being sick

The structure of the questionnaires has shown in Table 2. A total of 14 questionnaires have been distributed among

individuals through social media (Instagram, Facebook, Whatsapp and etc.) in the form of Google form. For each question the contributor was given a choice of answering from multiple options. The data collected from the Google form was used to show the results with the help of pie charts. To draw the pie charts we used Origin 8.5 Software.

4. RESULTS:

The following information was collected to access people awareness about COVID-19. In this study we received 210 responses.

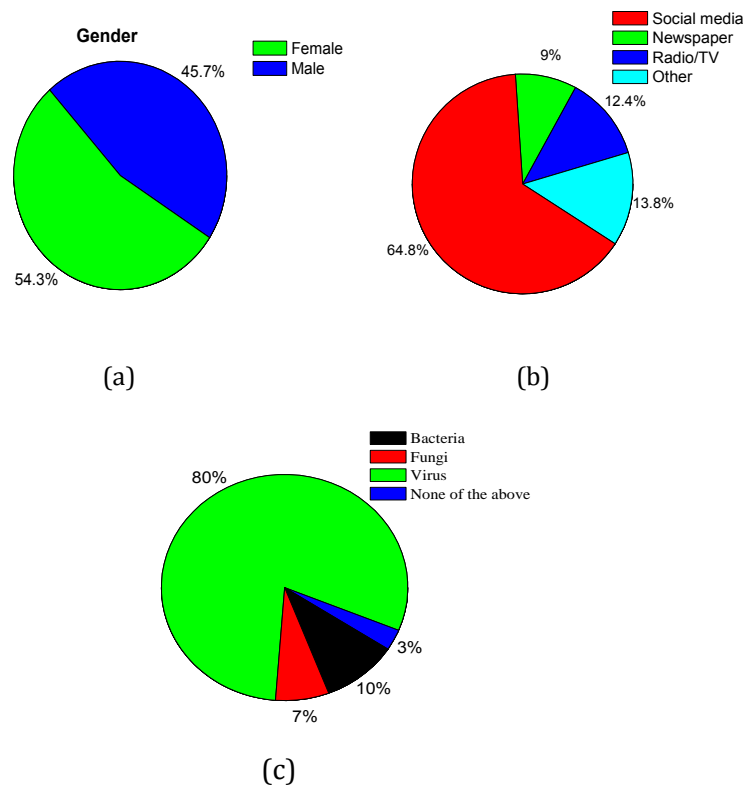


Fig 3: (a-c) Pie diagram showing, (a) Gender distribution (b) Source of knowledge about CORONA-19 (c) What is COVID-19

This pie chart 3(a-c) shows that out of the 210 people completed questionnaires of which 54.3% were female and 45.7% were male. This is quite an equal amount so it should not affect the overall result. According to 64.8% of respondents, the social media (Instagram, Facebook, Whatsapp and etc.) was the leading source of information between young adults and 80% individuals knows that COVID-19 was a virus as shown in Fig. 3(b, c)

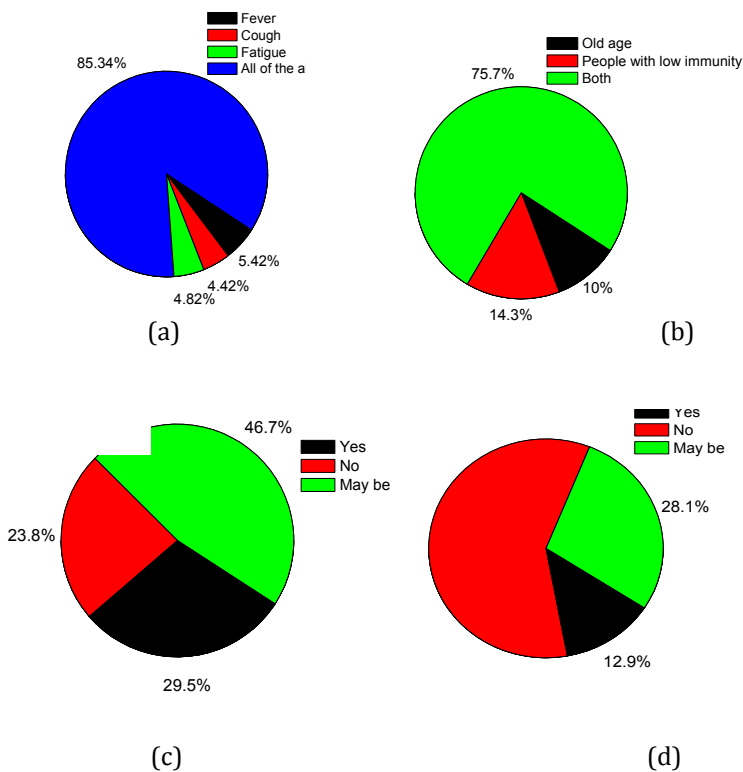


Fig 4: (a-d) Pie diagram showing, (a) Common Symptoms for COVID-19 include (b) Individual with high-risk include (c) Can Coronavirus survived in hot weather (d) Both COVID-19 and SARS are the same

This pie chart (a-d) shows that 85.34% individuals were aware about the common symptoms (fever, cough and fatigue) of COVID-19 and 75.7% individuals knows the risk factors of COVID-19. 46.7% individuals were not sure about survival of this virus in hot weather whereas according to 29.5% individuals coronavirus can also transmitted in hot weather and 59% population knows that both COVID-19 and SARS were not same.

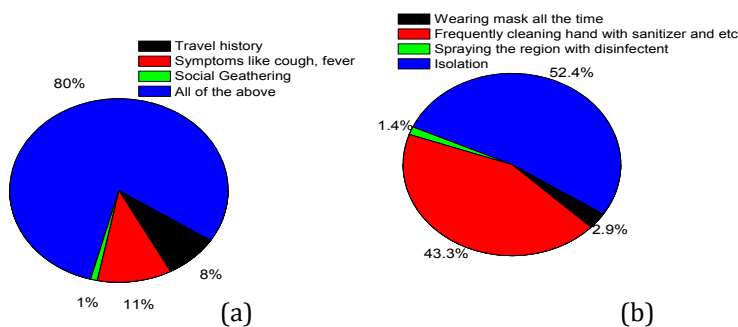


Fig 5: Pie diagram showing, (a) Initial screening of Patient should include (b) The most reliable way to protect own self is

From pie chart (a) it depicts that 80% individuals knows the basic steps of initial screening (Like travel history, symptoms cough, fever and social gathering) of the patient. According to 52.4% individuals, isolation was the most

reliable way to protect own self whereas according to 43.3% individuals, frequently cleaning hand with sanitizer, soap was the most reliable way

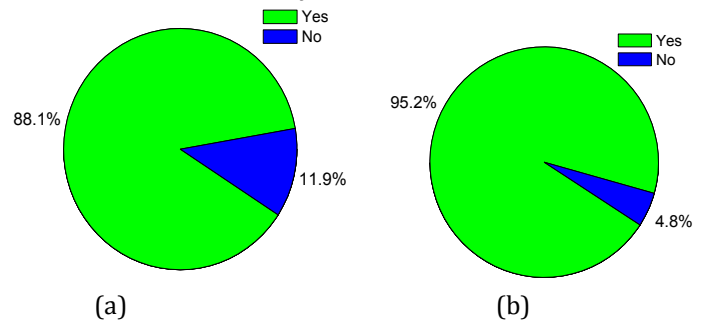


Fig 6: Pie diagram showing, (a) Do you think the medical professionals is one of the high-risk group for COVID-19 pandemic (b) Do you think the government should provide health insurance to medical and allied professionals

As shown in pie chart 6 (a) that 88.1% knows that medical professionals were one of the high risk group for COVID-19 and from 6 (b) it depicts that 95.2%, government should provide health insurance to medical and allied professionals.

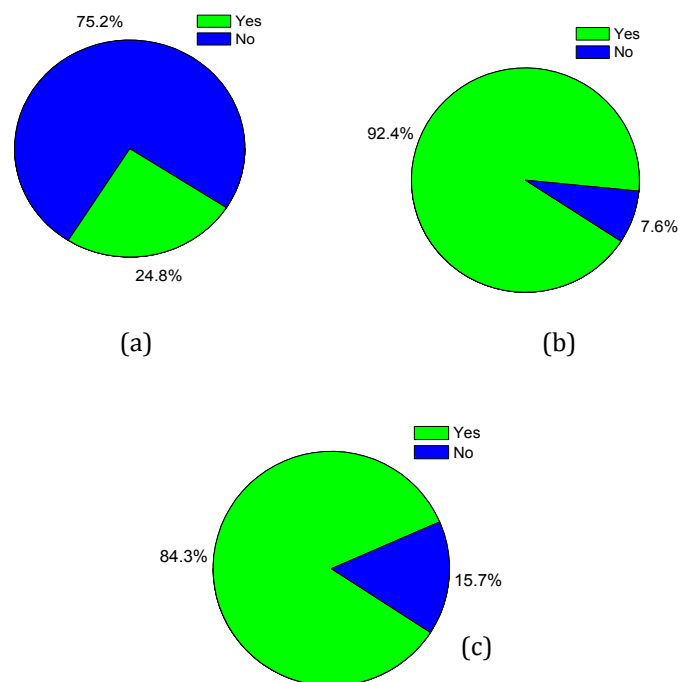


Fig 7: (a-c) Pie diagram showing, (a) Do you think clapping/vibratory sound will kill the coronavirus (b) Do you believe the government and the medical profession doing their work properly (c) Do you believe universal precautions are adequate to prevent the spread of COVID-19 infection

From the information shown in Fig. 7(a) it shows that 75.2% individuals think that clapping and vibratory sound were not kill the corona virus. Fig. 7(b) shows that 92.4% were aware and satisfied with the work of government and the medical professional. According to 84.3% individuals, universal precautions were adequate to prevent the spread of COVID-19 infection as shown in Fig 7(c).

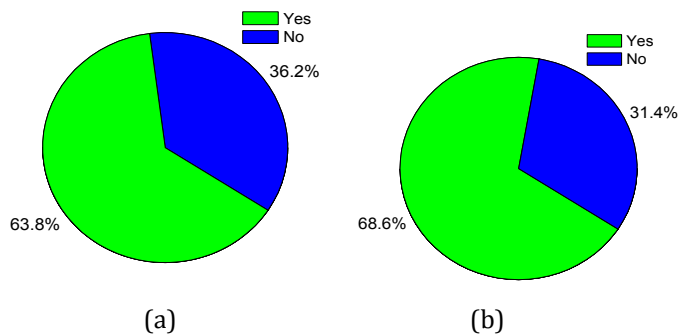


Fig 8: Pie diagram showing, (a) Do you think every person should be screened at the hospital

(b) Do you think someone spread the virus without being sick

As shown in Fig. 8(a) 63.8% people think that there should be proper screening at hospital and Fig. 8(b) shows 68.6% were believe that someone may be carrier of this virus without being sick.

5. DISCUSSION:

This study analyses the attitude, knowledge and degree of awareness of population of Himachal Pradesh, India about COVID-19. The transmission of this virus is due to direct contact with infected people such as health care personnel and family members. Awareness about the mode of transmissions, source of infection, symptoms, preventive measures, government and medical professional efforts were of extreme importance. Therefore 210 individuals, men and women of different age groups were asked to complete a questionnaires to access the information and knowledge about COVID-19. Overall population indicated good level of knowledge about the source of infection and prevention. Social media (Instagram, Facebook, Whatsapp and etc.) played an important role in awareness followed by others and TV/ radio. The level of knowledge was higher among younger individuals who derived most of their knowledge from social media. Moreover respondent were satisfied with the work of government and health care. Certainly, under the joint efforts of government of India, Himachal Pradesh and all doctors, nurses paramedical staff and other helping hands definitely will win the fight against COVID-19 in the future.

6. CONCLUSION:

In conclusion, this survey shows that the level of perception about COVID-19 was very good. The education campaign of the Ministry of Health played an important role in awareness of COVID-19 infection. Most of the people took precautions to prevent infection by wearing masks and avoid to going crowded places. All these control measures implemented by the government such as banning public gathering and as community based sampling survey was not possible at that stage so we choose to collect the data on line by using social media (Instagram, Facebook, Whatsapp and etc.) in the form of Google form. We concluded that social media played important role in collecting information about COVID-19. Due to representativeness limitation of the sample, more studies are necessary to examine the knowledge and attitude in the direction of COVID-19 not in Himachal Pradesh but also in India too.

7. CONFLICTS OF INTEREST:

The authors declare no conflict of interests regarding this article

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