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Study on COVID-19 awareness and vaccination in Indian scenario

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Abstract---The coronavirus (COVID-19) pandemic, which originated in the city of Wuhan, China, has quickly spread to various countries, with many cases being reported worldwide. As of May 8th, 2020, in India, 56,342 positive cases have been reported. India, with second largest population in the world, more than 1.34 billion, will have difficulty in controlling the transmission of this virus which leads to severe acute respiratory syndrome. It is necessary to spread awareness about Covid-19 symptoms, precautionary measures to be taken, vaccination and its importance to the citizens of Indian. The study is an attempt to understand the views of the Indian people about Covid-19, level of awareness amongst them about the symptoms, protective measures and vaccination which in turn would help in controlling the spread of the virus.

Keywords---COVID-19, corona, vaccination.

Introduction

The pandemic started in China and spread across the globe severely affecting countries like USA, Italy, Spain, Germany, France, Iran, Switzerland, Turkey and eventually the entire globe. Indian Government took wise strategic steps, with learning from other countries and was able to manage the spread of the pandemic though being the second largest emerging and developing country in the world. Discipline was enforced amongst the citizens by using the help of Police force to ensure adherence to the Lockdown and Healthcare systems were organized so as to care of the infected people country. The influence of the COVID-19 pandemic

was observed in India in March 2020, as the entire country went into a lock-down state. Everything eventually came to a standstill. The only thing that functioned were the hospitals, Healthcare and essential services.

India is one of the densest countries in the world. Not just in the street—where you're in a compressed area and people press against each other—but also in the manner in which housing localities are structured. It is not unusual for more than one family, families with multiple generations, to live together. This makes it very difficult to follow physical distancing mandates which is one the precautionary measure for controlling the spread of the virus. The Ministry of Health and Family Welfare of India has raised awareness about the recent outbreak and has taken necessary actions to control the spread of COVID-19. The central and state governments are taking several measures and formulating several wartime protocols to achieve this goal. Moreover, the Indian government implemented a 55-days lockdown throughout the country that started on 25, March, 2020, to reduce the transmission of the virus. Humongous efforts are taken in Indian which comprises of a multi-faceted and religiously oriented population, to create awareness about the COVID-19 pandemic and the precautionary measure to be taken to stop the spread of infection of the virus. The outbreak of the pandemic has eventually affected the economy of the nation, as it has dramatically impeded the industrial sectors due to lesser business engagements worldwide.

In the last few months several countries including India took the initiative to develop the COVID-19 antivirus vaccine. Currently, Covishield and Covaxin are the two vaccines administered in India. Covishield is the Indian variant of the AZD1222 vaccine developed by Oxford University and AstraZeneca and is manufactured by Serum Institute of India (SII). Covaxin is manufactured by Hyderabad-based Bharat Biotech in collaboration with Indian Council of Medical Research (ICMR). Even though the vaccine is available and we are able to overcome the challenge of the infection of the COVID-19 Virus, the need of creating mass awareness about Vaccination against COVID-19 is of prime importance.

Aims and Objectives

The study aims to understand:

- The level of awareness about the COVID-19 symptoms and precautionary measures
- The level of awareness about the COVID-19 vaccine and the challenges in administering the vaccine
- The fear in the minds of people regarding vaccination.

Literature Review

Coronaviruses are a family of viruses that can cause the common cold or more severe diseases such as severe acute respiratory syndrome, Middle East respiratory syndrome, and the coronavirus disease COVID-19. Globally, the COVID-19 pandemic has sickened more than 263 million people and claimed the

lives of more than 5.2 million, according to John Hopkins University. The United States has the world's largest number of cases — over 48 million — and more than 780,000 deaths. [1]. India was one of the earliest countries to declare a lockdown and that certainly gave them some time to decelerate the spread of the disease. However, keeping billion people at home for months and bringing the economy of the country to a complete halt is not a reasonable solution to control the transmission of the disease. Thus, the lockdown restrictions were slowly and strategically lessened in May by the Indian Government. This was complimented scaling the testing followed by contact tracing, isolation and treatment for those who may have been infected. Contact tracing was a challenge due to unavailability of proper records to reach out to people.

Density and healthcare services are the most prominent challenges in India to fight against Covid-19. [2]. The Ministry of Health and Family Welfare of India has raised awareness about the recent outbreak and has taken necessary actions to control the spread of COVID-19. The central and state governments are taking several measures and formulating several wartime protocols to achieve this goal. Moreover, the Indian government implemented a 55-days lockdown throughout the country that started on March 25th, 2020, to reduce the transmission of the virus. This outbreak is inextricably linked to the economy of the nation, as it has dramatically impeded industrial sectors because people worldwide are currently cautious about engaging in business in the affected regions. [3]

As we focus on treating COVID-19 patients and protecting healthcare workers, managing people with other diseases has become challenging. Complete or partial suspension of care in hospitals may be fatal for some. The move towards telemedicine or mobile integrated healthcare, to treat patients virtually at their homes, will probably not be nearly enough to provide adequate healthcare to a population of 1.3 billion. Additional steps need to be considered. To tame the pandemic, India has many valuable assets. That includes advanced pharmaceutical expertise and manufacturing capabilities, and a government which seems to be fast-tracking research to develop low-cost rapid diagnostic test and vaccines. India is home to many experienced vaccine makers, some of whom are racing to develop vaccines against the novel coronavirus. Several clinical trials are underway to test the efficacy of various treatments, including convalescent serum therapy.

But these impressive and necessary efforts will only go so far without coordination and collaboration. Standardised treatment protocols and development of a national database to inform decisions and evidence-based management guidelines is badly needed and international cooperation is more important than ever. [4]. The COVID-19 pandemic has caused an enormous amount of financial and social burden. Research has accelerated, but is still in infancy and will require time and funds to translate into therapies and vaccines. Pandemics like the current outbreak disrupt developing countries that have inadequate financial capabilities or a fragile healthcare system. However, there is hope in the fact that countries across the world have been uniting to fight this challenge. As a citizen, our obligation is to follow official advisories, not believe in myths, and educate ourselves.[5]. There are three main modes of transmission of COVID-19 in humans: [6,7]

- **Direct Contact**

This mode of transmission may occur through direct contact with virus-contaminated objects or surfaces and infecting people through the mouth, nose, or eyes.[8,9] In addition, a direct correlation between air pollution and COVID-19 was observed. Thus, exposure to indoor polluted air is likely to be directly associated with the disease, especially among refugees and migrant workers who live in feeble conditions. However, home isolation for an infected population may be a potential factor to other health problems if the place where they are socially isolated is not adequately ventilated. Therefore, an understanding of the consequences of the relationship between indoor air quality and the COVID-19 pandemic should be considered. [10]

- **Aerosol**

COVID-19 virus is primarily not airborne.[11] Instead, the virus is present in the aerosols of expired air, coughs, and sneezes, which are the main media for virus spread [12,13,14] from COVID-19-positive people. The virus remains viable for at least 3 hours in aerosols and as long as 48 to 72 hours on stainless-steel and plastic surfaces. [15]

- **Droplet**

Coughing and sneezing cause increased expulsion of these droplets from the oral cavity and respiratory tract. In Covid-19 patients, these droplets contain a virus that, if inhaled or ingested, will cause disease.[15,16,17]

Methodology

The research is survey based and was conducted through Google Form. The survey questionnaire was shared with the citizens from all the states in India. The objective of the survey is to estimate and propagate the awareness about COVID-19, its symptoms, precautionary measures, vaccinations etc. The basic intention of this survey is to spread the awareness about COVID-19 amongst the respondents. The study proposes to provide solutions to challenges faced by the people and how these can be overcome by suggestive modification in the system and the use of Information Technology. The literature review does not support sufficient data to understand the awareness of the peoples about covid-19 in the Indian scenario. Hence, Quantitative approach will be implemented to understand the same. Survey method will be used to get data. Administration of Questionnaire with the prospective respondents – citizens from India was conducted to get appropriate information. The target population is from the age group of 18 years and above from India. Before the start of the survey the respondents were made aware about the study and its relevance to them in the current pandemic. A well designed pretested questionnaire with objective questions was administered amongst the respondents to gather knowledge about the people's awareness about COVID-19 and their willingness in taking the vaccination. 386 responses were collected through Google Forms from respondents across India. Additionally, the information was gathered from a variety of sources, such as a healthcare website, journals, publications, published papers, and records.

Discussion

A study was conducted to understand the views of the respondents regarding COVID-19 awareness and Vaccination awareness. 385 adults respondents participated in the survey conducted for this study. Further the study was extended by taking the views of 289 adults from India regarding Vaccination Awareness.

Awareness of COVID-19

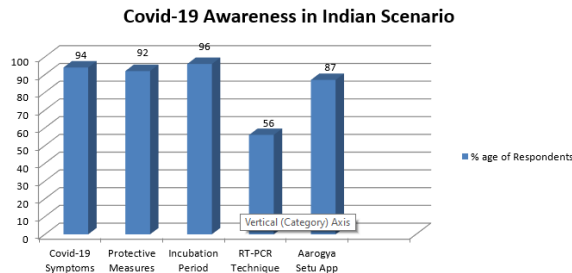


Fig. 1. Covid-19 awareness amongst respondents
Fig. 2.

As shown in fig. 1, on the basis of survey, it was found that 94% of the respondents are aware about the symptoms of COVID-19. COVID-19 affects different people in different ways. Most infected people will develop mild to moderate illness and recover without hospitalization. Most common symptoms:

- Fever
- Cough
- Tiredness
- Loss of taste or smell
- Serious symptoms:
- Difficulty breathing or shortness of breath
- Loss of speech or mobility, or confusion
- Chest pain

An immediate medical attention is required if any serious symptoms found.

To prevent the spread of virus, it is necessary to protect yourself and others around you by knowing the facts and taking appropriate precautions.

To prevent the spread of Covid-19, 92% of the respondents know the preventative measures to be taken. The following are some of the preventive measures:

- Maintain a safe distance from others (at least 1 metre), even if they don't appear to be sick.
- Wear a mask in public, especially indoors or when physical distancing is not possible.
- Choose open, well-ventilated spaces over closed ones. Open a window if indoors.
- Clean your hands often. Use soap and water, or an alcohol-based hand rub.
- Get vaccinated when it's your turn. Follow local guidance about vaccination.

- Cover your nose and mouth with your bent elbow or a tissue when you cough or sneeze.
- Stay home if you feel unwell.

Awareness of Incubation period

Most of the respondents, around 96% aware about the incubation period of covid-19. The incubation time for Covid-19 ranges from 1-14 days, most commonly being around 5 days.

RT-PCR Technique

Around only 56% of the respondents are aware about the technique which is useful for the early diagnosis of Covid-19. The respondents are not found much aware about the test required for the early detection of Covid-19. They are not much aware of RT-PCR technique.

Impact of pandemic on mental health

The COVID-19 pandemic is having profound psychological impacts on people globally, with increasing levels of stress, anxiety, and depression being reported, especially in those with pre-existing medical conditions appearing to be more vulnerable.

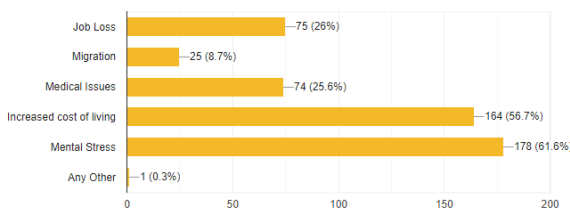


Fig 2. Challenges faced by the family members during Covid-19

As shown in fig. 2, majority of people and family members (61.6 %) were under mental stress. The concern of the pandemic along with increase in cost of the daily essential items etc. has contributed to the elevation in mental stress. The impact of COVID-19 as per the survey indicated that approximately 26% of people have lost their jobs. The loss in jobs has resulted in increased depression, anxiety, distress, and low self-esteem and may lead to higher rates of substance use disorder and suicide.

Vaccination Concerns

Total 289 respondents participated in Vaccination Awareness Program where the survey is taken on the basis of vaccination awareness and COVID-19 impact. The survey indicated that people are concerned about the vaccination and vaccines available in India.

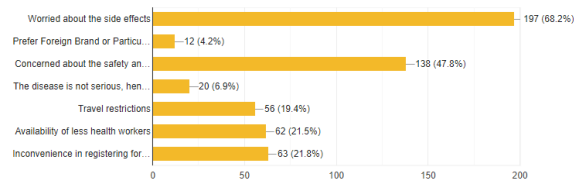


Fig 3. Concerns about COVID-19 Vaccination

As shown in fig. 3, the following concerns were indicated through the survey:

- Side effects of vaccine - 68.2% of the respondents were worried about the side effects of the vaccine.
- Safety and Effectiveness of Vaccine - 47.8% of the respondents were concerned about the safety and effectiveness of the vaccine which they plan to get administered.
- Other concerns - Approximately, 20% of the respondents have concerns about travel restrictions, availability of less health workers, and inconvenience in registering for vaccination through mobile app.
- The views were also taken regarding the readiness to pay for Covid-19 vaccination.

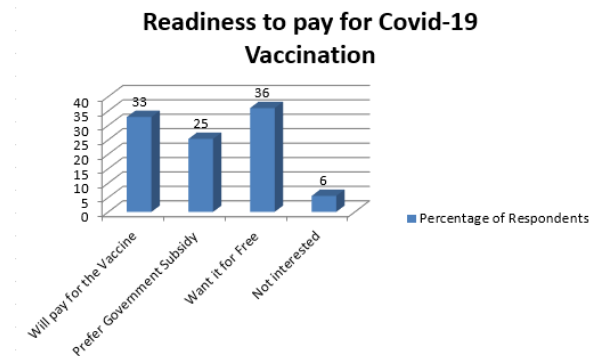


Fig 4. Readiness to pay for COVID-19 Vaccination

Cost of Vaccine

It was found that:

- Free of cost vaccination - 36% of the respondents
- Ready to pay - 33% of the respondents are ready to pay for the vaccination
- Government subsidy - 25% of the respondents want government subsidy on COVID-19 vaccine.

Registration for COVID-19 Vaccination

The views were also taken regarding the level of awareness of the respondents regarding registration process for Covid-19 Vaccination.

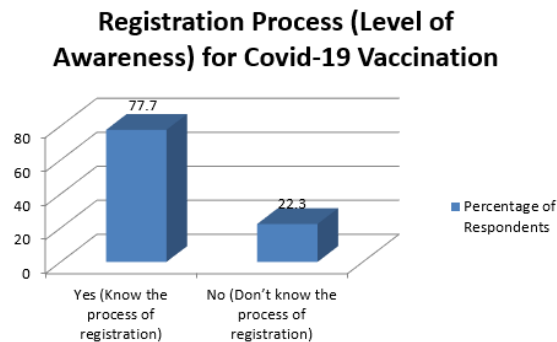


Fig 5. Level of Awareness about Covid-19 registration process

It was found that, 77.7% respondents were aware about the registration process for Covid-19 vaccination either through the mobile app or through the website and 22.3% were not aware about the same. Thus, steps need to be taken to make citizens aware about the registration process for vaccination.

Conclusion

In COVID-19 pandemic, people have lost their jobs leading to depression, anxiety, and distress. The research points to concerns around poor mental stress due to job loss increase in cost of living etc. which may lead to suicide attempts or deaths. The COVID-19 pandemic has led to a dramatic loss of human life worldwide and presents an unprecedented challenge to public health, food systems and the work environment. It is necessary to make people of India aware about the complete process of registration for vaccination through Government promoted and mandated Aarogya Setu App or Cowin website. The study suggests that the Government and every Indian who are aware about COVID-19 should take a part in spreading awareness about COVID-19 vaccination and its impact.

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