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A CROSS-SECTIONAL STUDY ON COVID-19 VACCINATION AWARENESS IN WEST BENGAL POPULATION

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ABSTRACT

Introduction: Numerous COVID-19 vaccines have been licenced and given worldwide in a number of nations. However, there is little data available to evaluate dentistry clinic patients' expectations, actions, and knowledge regarding COVID-19 vaccinations.

Aim: To evaluate the expectations, opinions, and awareness of the Indian population attending dental clinics regarding the COVID-19 immunisation, the current study was carried out.

Methods: 1700 patients who attended dental clinics in India participated in an online survey utilising a four-part questionnaire covering sociodemographics, knowledge, attitudes, and perceptions. Also obtained was informed consent. Due to the pandemic's risk of infection, internet approaches were employed to acquire the data. **Results**: Subjects with a higher educational level, affluent socioeconomic position, city residency, and having had all recommended vaccinations previously had a mean awareness score that was considerably higher. Additionally, the mean attitude score was greater among female participants who had previously received all recommended immunisations. The covid-19 immunisation was recommended by nearly half (54%) of the participants, with females responding more favourably than males (54.9% vs. 45.9%, P = 0.003).

Conclusion: The current study comes to the conclusion that Indian patients who visit dental clinics are less aware of and have more positive sentiments towards the COVID-19 immunisation. To raise awareness, efforts for immunisation regimens for health promotion must be launched right away.

Keywords: Attitudes, COVID-19, coronavirus disease 2019, knowledge, perceptions, vaccination

INTRODUCTION

The severe acute respiratory syndrome coronavirus is the cause of the novel coronavirus illness known as COVID-19, which was initially described in November 2019. The first mention of this illness was made in late 2019 in Wuhan, China. Since then, the illness has spread around the world, and the World Health Organisation (WHO) eventually proclaimed it to be a pandemic. COVID-19 symptoms that are often mentioned include fever, coughing, dyspnea, exhaustion, anosmia, and ageusia. Usually, these signs show up one to fourteen days following viral exposure.1. When these symptoms are identified in subjects, the majority—nearly 80%—only experience mild-to-moderate disease symptoms, such as mild pneumonia; only 13% exhibit severe symptoms,

such as hypoxia, dyspnea, and/or more than 50% lung involvement on radiographic imaging; and only 5% experience severe symptoms, such as shock, respiratory failure, and/or multiorgan dysfunction.

At least one-third of the people do not exhibit any symptoms and remain asymptomatic; yet, these subjects may still be carriers of the illness. Following full recovery from COVID-19, a small number of patients seem to pass an outcomes sequence known as late COVID, in which cases of serious organ damage have been documented.2

When someone coughs or sneezes, tiny airborne particles called as aerosols containing the virus are released into the atmosphere, where they can spread from their mouth and nose. Although the virus can spread through contaminated locations, this may not be the most typical way that it does so. Before they show symptoms, infected individuals may transfer the virus to another healthy person for up to two days.

Following infection, the subject may remain infectious for around 10 days in moderate instances and nearly 20 days in severe cases.3. The condition is still incurable and there is no known medical therapy for it. Vaccines have been developed in several nations across the world. Nonetheless, there are a number of ongoing studies aimed at creating a medication that targets the infection in order to treat the condition. Currently, the most common kind of therapy is essentially symptom-based. Treatment of problems, seclusion, compassionate care, and innovative methods are all part of managing COVID-19.4 Nowadays, vaccinations are the most effective and the only method available to safeguard the general public from COVID-19. Because SARS-CoV-2 is so contagious, vaccinations pose a global danger to public health.

Given the widespread administration and distribution of vaccines, it is imperative to assess community acceptance of COVID-19 immunisations. The COVID-19 vaccination has generated controversy among Indians in general to date.5. According to a global poll on general public acceptance of the COVID-19 vaccine, 48% of respondents said they were unsure about the immunisation, and the remaining respondents said they were unsure whether they would obtain the vaccination. Immunisation of persons at higher risk of sickness is crucial, since it is the only effective means of controlling the spread of the virus and keeping the public from being exposed to COVID-19.Six

Understanding the opinions, knowledge, and expectations of Indian subjects on the COVID-19 vaccine is crucial in such a situation. In order to evaluate the expectations, opinions, and awareness of the Indian population attending dental clinics regarding the COVID-19 immunisation, the current study was carried out.

MATERIALS AND METHODS

The goal of the current cross-sectional study was to evaluate the attitudes, expectations, and knowledge of the Indian community that visits dental clinics about the COVID-19 immunisation. An electronic survey was administered to Indian participants in the research who visited dental clinics to seek treatment or advice. The poll was conducted over a period of one month. The e-survey served as the basis for the questionnaire, which was distributed to the participants via social media platforms including Facebook, Instagram, and/or Whatsapp.

The adoption of social distance norms and COVID proper behaviour led to the adoption of the internet technique. After screening 2100 participants at the beginning of the study and excluding some others based on the study's criteria, the final sample size consisted of 1700 subjects, of whom 43% were female and 57% were male. The study's inclusion criteria were individuals who were Indian, attended dental clinics, were above the age of 18, agreed to engage in the research, and had a reliable internet connection.

RESULTS

The goal of the current cross-sectional study was to evaluate the attitudes, expectations, and knowledge of the Indian community that visits dental clinics about the COVID-19 immunisation. Of the 1700 participants in the research, 43% were female and 57% were male.

The study's mean awareness ratings for the COVID-19 immunisation were considerably higher in participants with greater levels of education than in those with lower levels of education, as Table 1 illustrates. Additionally, those with greater socioeconomic status, those who have had prior vaccines, and those who reside in cities all had higher ratings. When the study participants' attitudes about the COVID-19 virus were evaluated, the mean attitude scores of the female individuals were higher, particularly those who had previously had the other vaccines (Table 2). A further noteworthy finding was that around 25% of participants believed the COVID-19 vaccine in India to be safer, almost 2/3 suggested the vaccine to friends, family, or coworkers, and roughly 60% said they would receive the shot without hesitation.

This justifies a campaign to change the way that COVID-19 vaccine is approached. The current study evaluated the study participants' attitudes on COVID-19 vaccinations in India. Almost 50% of the participants believed that vaccination was a must for everyone. This propensity was greater in females than in men, with p=0.003 showing that 54.9% of females and 45.9% of males had this tendency. The majority of participants—roughly 95%—thought that vaccinations ought to be provided in India at no cost at all. In comparison to men, women likewise had a greater sense of this. Almost 90% of participants believe that the COVID-19 vaccination may have adverse effects. More than half of the survey participants believed that COVID-19 might be eradicated in the absence of vaccinations if COVID-appropriate behaviour was adopted.

DISCUSSION

Worldwide, a number of COVID-19 vaccines are being developed; several of these vaccines show promise and are now undergoing trials before receiving licensure for use in humans. Large-scale vaccination campaigns have been launched by the Indian government, providing encouraging news for the fight against the quickly expanding epidemic. While there are a number of vaccinations that can be given in India, recipients of COVID-19 vaccines are concerned about the vaccine's adoption and distribution in India due to its relatively young nature and lack of long-term outcomes. Approximately 50% of Indians have never had the COVID-19 vaccination. Prior vaccination intake, monthly income, gender, family size, and educational attainment were all highly correlated with awareness. The strongest correlation was observed between gender and previous vaccination history.

According to the study's findings, about 80% of the participants had a positive attitude towards receiving the COVID-19 vaccination. Gender had some impact on vaccination knowledge as well. These results contradicted those of earlier Indian research that found no relationship between gender and COVID-19 vaccination knowledge. These results, however, were in line with those of research conducted in 2021 by Islam S et al7 and in 2020 by Hossain MA et al8, whose authors found that men knew more about COVID-18 vaccinations than women did. This might be explained by the research' geographic location and sample bias.

Also, data misinterpretation and data under reporting concerning incidence and mortality associated with COVID-19 can cause hesitation and reduce concerns for COVID-19 vaccine. It is vital to make people aware with easy accessibility to the vaccines available. The present study showed that subjects having higher education were more aware towards COVID-19 vaccines. This was in agreement with the study by Harpan H et al[9] in 2016 where subjects with higher education had more disease awareness. This might be because more informed, knowledged, and intelligence leads to more awareness.

The study's findings also demonstrated that participants with higher socioeconomic class knew more about COVID-19 vaccinations and immunisations in general. This was comparable to a 2018 research on the dengue vaccination by Islam JY et al., whose findings indicated that participants with higher socioeconomic class had higher levels of awareness. Another research on the COVID-19 vaccine, carried out in China in 2002 by Wang J et al.10, revealed that those who had recently had an influenza vaccination had higher acceptance towards the COVID-19 vaccine. The current study's findings, which showed that those who had already gotten other vaccinations had higher acceptance, were in line with the findings of this investigation.

The current study also revealed that, in comparison to females, men were more receptive to accepting the COVID-19 vaccination. The present study's results were in line with those of Nguyen LH et al. (2020) in China and Callaghan T et al. (2021) in China, where the authors demonstrated that males were more receptive to the COVID-19 vaccine. Furthermore, they found that subjects who had previously received vaccinations were also more accepting of the COVID-19 vaccine. Almost half of the participants in the survey held the opinion that COVID-19 vaccinations should be made available to all Indians, with the initial vaccination going to medical professionals. This may be because frontline healthcare staff are more likely to be exposed.

Roughly 90% of research participants thought that COVID-19 vaccination adverse effects may be connected to the virus's recent discovery. These outcomes matched those of a research by Chou WS et al. (2013), in which participants reported outcomes comparable to those of the current investigation.

CONCLUSION

Within the bounds of its limitations, the current study indicates that COVID-19 has had a global impact on people's social, physical, and mental health, and that vaccinations may be able to stop the disease's spread and manage its symptoms. The current study campaign's findings and programmes ought to be put into practice in order to raise public awareness of the COVID-19 vaccination. A few drawbacks of the study were, however, the

cross-sectional design, limited sample size, lack of long-term data, and the recent availability of COVID-19 vaccinations. Thus, further long-term research with bigger sample sizes have to be carried out.

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TABLES

S. No	Variables	Females % (n)	Males % (n)	Total % (n)
1)	**Awareness about COVID-19**			
a)	Yes	90 (1530)	90 (1530)	90 (1530)
b)	No	5 (85)	6 (102)	5 (85)
c)	Not aware	5 (85)	4 (68)	5(85)
2)	**Effectiveness of COVID-19**			
a)	Yes	53 (901)	55 (935)	54 (918)
b)	No	19 (323)	20 (340)	20 (340)
c)	Not aware	28 (476)	25 (425)	26 (4420
3)	**Vaccine and allergic reactions**			
a)	Yes	31 (527)	39 (663)	36 (612)
b)	No	5 (85)	6 (102)	6 (102)
c)	Not aware	70 (119)	55 (935)	59 (1003)
4)	**Is overdose dangerous**			
a)	Yes	65 (1105)	62 (1054)	63 (1071)
b)	No	2 (34)	3 (51)	3 (51)
c)	Not aware	33 (561)	35 (595)	34 (578)

Table 1: Knowledge about COVID-19 vaccine based on gender distribution

S. No	Variables	Females % (n)	Males % (n)	Total % (n)
1.	**Vaccine is risk free**			
a)	Disagree	4 (68)	5 (85)	5 (85)
b)	Unaware	75 (1275)	66 (1122)	70 (1190)
c)	Agree	22 (374)	29 (493)	25 (425)
2.	**Vaccine is vital for survival**			
a)	Disagree	3 (51)	5 (85)	4 (68)
b)	Unaware	23 (391)	21 (357)	22 (374)
c)	Agree	74 (1258)	74 (1258)	74 (1258)
3.	**Vaccine could only limit pandemic**			
a)	Disagree	10 (170)	17 (289)	14 (238)
b)	Unaware	23 (391)	23 (391)	23 (391)
c)	Agree	67 (1139)	60 (1020)	63 (1071)
4.	**Suggest vaccine to family and friends**			
a)	Disagree	4 (68)	9 (153)	7 (119)
b)	Unaware	28 (476)	27 (459)	28 (476)
c)	Agree	67 (1139)	70 (1190)	65 (1105)
5.	**Take vaccine without hesitation**			
a)	Disagree	7 (119)	12 (204)	10 (170)
b)	Unaware	34 (578)	29 (493)	31 (527)
c)	Agree	59 (1003)	59 (1003)	59 (1003)
6.	**Vaccine should be equally given**			
a)	Disagree	1 (17)	2 (34)	2 (34)
b)	Unaware	9 (153)	9 (153)	9 (153)
c)	Agree	90 (1530)	89 (1513)	89 (1513)

Table 2: Attitude towards COVID-19 vaccine based on gender distribution