Expectations, Views, And Awareness Of Covid-19 Vaccination Among Indian Dental Clinics: A Survey Study

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Abstract

Background: Various vaccines have been developed, licensed, and administered against COVID-19 infection to combat the disease globally including in India. The behavior, expectations, views, and awareness of dental clinics in India for COVID-19 vaccination are not well understood.

Aim: The present survey study aimed to assess the expectations, views, and awareness in Indian dental clinics concerning the COVID-19 vaccination.

Methods: The present survey study included 900 subjects seeking dental care treatment in Indian dental clinics. The questionnaire used in the present survey study comprising of four parts. The participants filled out the survey after giving informed consent. The 4 parts of the survey were demographics, knowledge, attitude, and perception. The data gathered was assessed statistically.

Results: Mean awareness and attitude scores were significantly more in subjects with higher education, socioeconomic status, subjects residing in the urban areas, and who received all the vaccines previously. The attitude scores were also higher in subjects female subjects compared to male subjects. It was reported by 21.44% (n=83), 18.60% (n=72), 1.55% (n=6), and 58.39% (n=226) females reported that uninfected, infected, recovered, and everyone should be vaccinated. In males, these responses were reported by 26.70% (n=137), 24.17% (n=124), 1.55%(n=8), and 47.56% (n=244) males respectively.

Conclusion: It can be concluded from the results of the present study that subjects visiting Indian dental clinics lack awareness concerning the COVID-19 vaccine. However, these subjects have more optimism in their attitude toward the vaccine. Before vaccination, immediate promotion programs must be implemented to raise awareness.

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

INTRODUCTION

Coronavirus disease is caused by a novel coronavirus also known as COVID-19 which was first identified in Wuhan, China in 2019. The disease is highly communicable with its fast spread in various countries and was declared a pandemic by WHO (World Health organization). The COVID-19 pandemic led to high mortality rates globally including in India with the rapid rise in the number of subjects affected with COVID-19.[1]

Definitive signs and symptoms for COVID-19 infection are not identified. However, the common symptoms identified are ageusia, anosmia, breathing difficulties, fatigue, cough, and/or fever. The symptoms usually appear from 1 to 14 days after the subject is exposed to the virus.[2] In subjects having identifiable symptoms, mild pneumonia is noted followed by severe symptoms in a few subjects including lung involvement radiographically, hypoxia, and/or dyspnea, and very few subjects present with symptoms like multiorgan dysfunction, shock, and/or respiratory failure. Nearly 1/3rd subjects do not show any symptoms, however, these subjects can still transmit the disease and are carriers. After the subjects have recovered from COVID-19, long-term sequelae are noted as a series of outcomes including organ damage.[3]

The mechanism of aerosol spread for COVID-19 virus is seen when a subject sneeze, coughs or breathes, the virus can spread from the nose and the mouth of the affected. The most common method of virus transmission remains the

aerosol spread where the virus is transmitted from one affected individual to another and remains latent for nearly 2 days before any symptom is seen.[4] The affected subject can transmit the virus for nearly 10 days once any symptom of viral infection is seen in mild infection cases and for subjects with severe infection, the subject can remain contagious for nearly 20 days.[5]

As the disease is highly contagious, to combat the disease, various vaccines have been developed globally including in India to control its spread and limit the mortality rates. The main therapy is based on the symptom of the disease despite thorough testing done in the production of the medicine for COVID-19. The management of COVID-19 is based on novel approaches, isolation, compassionate care, and complications associated.[6]

Vaccines remain the most reliable and promising modality for the prevention of COVID-19 infection, owing to it affecting a large population globally and being a highly contagious disease. With the wide distribution of vaccines globally, it is vital to assess the approval by the community concerning the use of the COVID-19 vaccine.[7] The use of COVID-19 vaccination in Indian subjects is controversial. Based on the survey done for the adoption of the COVID-19 vaccination, nearly half of the subjects were uncertain concerning the use of the COVID-19 vaccine, and the remaining were not sure if they would take the vaccination or not.

As vaccines remain the most reliable method to control viral transmission and prevent COVID- 19 exposure. Hence, the general vulnerable population needs to get vaccinated as early as possible. In such a scenario, it is vital to assess the expectations, views, and awareness concerning the vaccination for the developers and government to assess all hurdles in thedelivery of the vaccine.[8] The data concerning the expectations, views, and awareness for the COVID-19 vaccine is scarce in the literature for Indian subjects. Hence, the present survey study aimed to assess the expectations, views, and awareness in Indian dental clinics concerning the COVID-19 vaccination.

MATERIALS AND METHODS

The present survey study aimed to assess the expectations, views, and awareness in Indian dental clinics concerning the COVID-19 vaccination. The participants recruited were the subjectsvisiting the dental clinics to seek dental care.

The inclusion criteria for the study were subjects who visited the dental clinics in the defined study period, were willing to participate in the study, did not require emergency dental care, and filled out the survey questionnaire on the spot. The exclusion criteria were subjects who did not give consent for participation, needed emergency dental/medical intervention, filled survey incompletely, and were not ready to fill survey on the spot.

For the study, a questionnaire was designed comprising four parts. The 4 parts of the survey were designed to assess the demographics, knowledge, attitude, and perception of the participating subjects. The questionnaire was given in person and was also shared as the google survey tool google forms to the dental clinics that consented to study participation. Also, the questionnaire was shared on Instagram, WhatsApp, and Facebook. The clinics were instructed to get the survey questionnaire answered on the spot to avoid any bias or influence. After data collection, the questionnaire was shared back.

The study initially recruited 1073 subjects who gave verbal and written informed consent. However, 173 subjects either opted out of the study or did not fill out the survey on the spot and were excluded making a final sample size of 900 participants from both genders 57% (n=513) males and 43% (n=387) female participants. The main criteria for the study were adult subjects of age 18 years or more, who volunteer for study participation, had internet access with them, were Indians, and attended the dental clinic.

The data from the questionnaire were gathered and critically assessed for the formulation of the study results.

RESULTS

The study results on assessing the knowledge of the participants for the COVID-19 vaccine, it was seen that mean awareness scores were higher in subjects with a higher level of education and belonging to the upper socioeconomic status. The scores were also significantly higher in subjects who previously had all the vaccination done and were residents of the urban culture. Comparable knowledge was seen about COVID-19 vaccines in males and females with 90.69% (n=351) females and 89.47% (n=459) males respectively. COVID-19 vaccine was considered effective in 52.71% (n=204) females and 54.97% (n=282) males, allergy associated with the COVID-19 vaccine was known to 37.20% (n=144) females and 41.52% (n=213) males, and 65.63% (n=254) females and 61.40% (n=315) males knew that overdose of the COVID-19 vaccine is dangerous as shown in Table 1.

Concerning the attitude of study subjects toward the COVID-19 vaccine, the study results showed that higher attitude scores were noted for female participants compared to the males in the present study and for the subjects who had previously received all the vaccinations completely. It was also seen that 2`1.44% (n=83) females and 28.65% (n=147) males considered the COVID-19 vaccine as a risk-free vaccine, 74.41% (n=288) males and 61.20% (n=314) females considered that vaccine is critical for the survival, the vaccine was considered as the only way to limit the infection

spread by 67.44% (n=261) females and 60.42% (n=310) males, and by 65.55% (n=590) subjects in total. In the study, 65.37% (n=253) females and 65.69% (n=337) males agreed that they will urge relatives, friends, and family to get vaccinated, 59.68% (n=231) females and 57.89% (n=297) males agrees that they will take the vaccine without any hesitation, and vaccine should be given equally to all was agreed by 90.18% (n=349) females and 88.30% as depicted in Table 2.

On assessing the perception of the participants towards the COVID-19 vaccine, it was seen that on asking who should be vaccinated, 21.44% (n=83), 18.60% (n=72), 1.55% (n=6), and 58.39% (n=226) females reported that uninfected, infected, recovered, and everyone should be vaccinated. In males, these responses were reported by 26.70% (n=137), 24.17% (n=124), 1.55%(n=8), and 47.56% (n=244) males respectively. It was reported by 54.52% (n=211) females and 57.30% (n=294) males that with precautions, COVID-19 can be eradicated without any vaccine. The vaccine has side effects was the perception by 89.40% (n=346) females and 88.69% (n=455)males. It was reported by 97.15% (n=376) females and 6.04% (n=31) males that the vaccine should be free of cost. The willingness to pay for vaccination was agreed by 67.18% (n=260) females and 64.13% (n=329) males respectively in the present study as shown in Table 3.

DISCUSSION

The present survey study aimed to assess the expectations, views, and awareness in Indian dental clinics concerning the COVID-19 vaccination. The study initially recruited 1073 subjects who gave verbal and written informed consent. However, 173 subjects either opted out of the study ordid not fill out the survey on the spot and were excluded making a final sample size of 900 participants from both genders 57% (n=513) males and 43% (n=387) female participants. The study results on assessing the knowledge of the participants for the COVID-19 vaccine, it was seen that mean awareness scores were higher in subjects with a higher level of education and belonging to the upper socioeconomic status. The scores were also significantly higher in subjects who previously had all the vaccination done and were residents of the urban culture. These findings were consistent with the studies of Rio C[9] in 2020 and Sharma A[10] in 2020 whereauthors reported better awareness of COVID-19 in subjects with higher education and socioeconomic background.

It was seen from the results of the present study that comparable knowledge was seen about COVID-19 vaccines in males and females with 90.69% (n=351) females and 89.47% (n=459) males respectively. COVID-19 vaccine was considered effective in 52.71% (n=204) females and 54.97% (n=282) males, allergy associated with the COVID-19 vaccine was known to 37.20% (n=144) females and 41.52% (n=213) males, and 65.63% (n=254) females and 61.40% (n=315) males knew that overdose of the COVID-19 vaccine is dangerous. These results were in agreement with the results by Mullard A[11] in 2020 and Hossain MA et al[12] in 2020 where comparable results were seen in the knowledge of males and females for efficacy, allergy, and overdose of the COVID-19 vaccine as seen in the present study.

On the assessment of the attitude of study subjects for the COVID-19 vaccine, the study results showed that higher attitude scores were noted for female participants compared to the males in the present study and for the subjects who had previously received all the vaccinations completely. It was also seen that 2`1.44% (n=83) females and 28.65% (n=147) males considered the COVID-19 vaccine as a risk-free vaccine, 74.41% (n=288) males and 61.20% (n=314) females considered that vaccine is critical for the survival, the vaccine was considered as the only way to limit the infection spread by 67.44% (n=261) females and 60.42% (n=310) males, and by 65.55% (n=590) subjects in total. In the study, 65.37% (n=253) females and 65.69% (n=337) males agreed that they will urge relatives, friends, and family to get vaccinated, 59.68% (n=231) females and 57.89% (n=297) males agrees that they will take the vaccine without any hesitation, and vaccine should be given equally to all was agreed by 90.18% (n=349) females and 88.30%. These findings were similar to the studies of Chou WS[13] in 2020 and Callaghan T et al[14] in 2021 where females had a more positive attitude to the vaccine considering it critical for survival, motivating others to take the vaccine, and considering it an only way to limit the infection spread.

Concerning the perception of the participants towards the COVID-19 vaccine, it was seen that onasking who should be vaccinated, 21.44% (n=83), 18.60% (n=72), 1.55% (n=6), and 58.39% (n=226) females reported that uninfected, infected, recovered, and everyone should be vaccinated. In males, these responses were reported by 26.70% (n=137), 24.17% (n=124), 1.55%(n=8), and 47.56% (n=244) males respectively. It was reported by 54.52% (n=211) females and 57.30% (n=294) males that with precautions, COVID-19 can be eradicated without any vaccine. The vaccine has side-effects was the perception by 89.40% (n=346) females and 88.69% (n=455)males. It was reported by 97.15% (n=376) females and 6.04% (n=31) males that the vaccine should be free of cost. The willingness to pay for vaccination was agreed by 67.18% (n=260) females and 64.13% (n=329) males respectively in the present study. These results were in line with the studies of Wang J et al[15] in 2020 and Nguyen LH[16] in 2020 where perception showed similar results regarding who should receive the vaccine, precautions that can eradicate COVID- 19, willingness to vaccine, and cost of the vaccine as shown in the present study.

CONCLUSION

Considering its limitations, the present study concludes that COVID-19 has threatened a large population globally including India affecting the health and livelihood of subjects across the globe where vaccination is the only hope to limit the infection and control the future. The results of the present study showed recommended the implementation of

further reach of healthcare services and more knowledge to be advertised and disseminated.

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TABLES

Knowledge	Responses		
	Females % (n=387)	Males % (n=513)	Total % (n=900)
Knowledge about the COVID-19 vaccineexistence			
Yes	90.69 (351)	89.47 (459)	90 (810)
No	4.90 (19)	6.04 (31)	5.55 (50)
Don't know	5.16 (20)	3.89 (20)	4.44 (40)
Efficacy of COVID-19			
Yes	52.71 (204)	54.97 (282)	54 (486)
No	19.37 (75)	19.68 (101)	19.55 (176)
Don't know	27.90 (108)	25.34 (130)	26.44 (238)
Allergy associated with the COVID-19 vaccine			
Yes	37.20 (144)	41.52 (213)	39.66 (357)
No	3.87 (15)	5.26 (27)	4.66 (42)
Don't know	58.91 (228)	53.21 (273)	55.66 (501)
Is vaccine overdosedangerous?			
Yes	65.63 (254)	61.40 (315)	63.22 (569)
No	1.80 (7)	3.50 (18)	2.77 (25)
Don't know	33.07 (128)	34.69 (178)	34 (306)

Table 1: Gender-based assessment of knowledge concerning COVID-19 vaccine in studysubjects

Attitude	Responses		
	Females % (n=387)	Males % (n=513)	Total % (n=900)
The recent COVID-19 vaccine is risk-free			
Agree	21.44 (83)	28.65 (147)	25.55 (230)
Undecided	75.45 (292)	65.49 (336)	69.77 (628)
Not Agree	3.87 (15)	5.26 (27)	4.66 (42)
The vaccine is critical to survival			
Agree	74.41 (288)	61.20 (314)	66.88 (602)
Undecided	22.99 (89)	34.89 (179)	29.77 (268)
Not Agree	2.58 (10)	3.89 (20)	3.33(30)
The vaccine is only way to limit infection spread			
Agree	67.44 (261)	60.42 (310)	63.44 (571)
Undecided	23.25 (90)	22.80 (117)	23 (207)
Not Agree	9.30 (36)	16.76 (86)	13.55 (122)
Will urge relatives, friends, and family to get vaccinated			
Agree	65.37 (253)	65.69 (337)	65.55 (590)
Undecided	27.64 (107)	27.68 (142)	27.66 (249)
Not Agree	6.97 (27)	6.62 (34)	6.77 (61)
Will take the vaccine without hesitation			
Agree	59.68 (231)	57.89 (297)	58.66 (528)
Undecided	33.59 (130)	29.62 (152)	31.33 (282)
Not Agree	6.71 (26)	12.47 (64)	10 (90)
The vaccine should be given equally to all			
Agree	90.18 (349)	88.30 (453)	89.11 (802)
Undecided	8.52 (33)	9.35 (48)	9 (81)
Not Agree	1.29 (5)	2.33 (12)	1.88 (17)

Table 2: Attitude of the study population toward COVID-19 vaccine

Perception	Responses		
	Females % (n=387)	Males % (n=513)	Total % (n=900)
Who should be vaccinated			
Uninfected	21.44 (83)	26.70 (137)	24.44 (220)
Infected	18.60 (72)	24.17 (124)	21.7 (196)
Recovered	1.55 (6)	1.55 (8)	1.55 (14)
Everyone	58.39 (226)	47.56 (244)	52.22 (470)
With precautions, COVID-19 can be eradicated without vaccination			
Yes	54.52 (211)	57.30 (294)	56.11 (505)
No	45.47 (176)	42.60 (219)	43.88 (395)
The vaccine has side effects			
Yes	89.40 (346)	88.69 (455)	89 (801)
No	11.11 (43)	10.91 (56)	11 (99)
The vaccine should be free of cost			
Yes	97.15 (376)	93.56 (480)	95.11 (856)
No	3.35 (13)	6.04 (31)	4.88 (44)
Willing to pay for vaccination			
Yes	67.18 (260)	64.13 (329)	65.44 (589)
No	33.33 (129)	35.47 (182)	34.55 (311)

Table 3: Perception of the study population toward COVID-19 vaccine