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### RESEARCH ARTICLE

#### ATTITUDE TOWARDS SARS-COV2 VACCINE AMONG DENTAL PROFESSIONALS

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Covid-19, Vaccines, Vaccine Hesitancy

#### Abstract

**Aim:** This study aimed to assess the acceptance and hesitancy of covid vaccine among dental professionals.

**Methods:** The study population consisted of dentists who work in private clinics, hospitals, institutions and health centers in Karnataka. An online questionnaire was sent in the form of google forms. The questionnaire comprised series of questions to know the level of knowledge, attitude towards SARS-COV2 vaccine.

**Results:** In this study total of 200 dentists participated, majority of them had good knowledge, optimistic attitude towards Covid 19 vaccine. The majority of dentists were aware of corona virus, symptoms and 84.3% have already received the vaccine. 91.7% participants believed it was very important to get the COVID-19 vaccine. 89.4% used to wear a mask all the time and 1.4% wore it sometimes. 49% of participants had symptoms like fever, headache, tiredness/myalgia, bodyacheetc following immunization.

**Conclusions:** Dentists were aware of COVID-19 symptoms and the importance of vaccination. Majority of dentists have already received the Covid 19 vaccine. Health care workers and Media plays an important role in educating and spreading information on vaccines.

**Clinical Significance:** Despite overall confidence in vaccines, a majority of dental professionals expressed concerns over a novel coronavirus vaccine.

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#### Introduction:-

The novel coronavirus (2019-nCoV) or the severe acute respiratory syndrome corona virus 2 (SARS-CoV-2), started from its origin in Wuhan City of Hubei Province of China and has been declared as pandemic by WHO.<sup>1,2</sup> Dentistry is a profession where the dentist works in close proximity to the patient's mouth and the risk of cross infection may be high between dental practitioners and patients.<sup>2</sup> SARSCoV- 2 being zoonotic, started with a single animal-to-human transmission, followed by sustained human-to-human spread.<sup>3</sup>

Vaccine acceptance among the general public and healthcare workers appears to have an important role in the successful control of the pandemic.<sup>4</sup> Strategic Advisory Group of Experts on Immunization defined vaccine hesitancy as a 'delay in acceptance or refusal of vaccination despite availability of vaccination services'<sup>4</sup>.

Factors that affect the attitude towards acceptance of vaccination include complacency, convenience and confidence. Complacency denotes the low perception of the disease risk; hence, vaccination was deemed unnecessary.

Confidence refers to the trust in vaccination safety, effectiveness, besides the competence of the healthcare systems. Convenience entails the availability, affordability and delivery of vaccines in a comfortable context.<sup>4</sup>

The purpose of this questionnaire study is to analyze the acceptance and hesitancy rate towards covid vaccine among Dental professionals.

**Aim:**

To assess the acceptance and hesitancy of covid vaccine among dental professionals.

**Objectives:-**

1. To assess the acceptance rate of covid vaccine among dental professionals
2. To assess the hesitancy rate of covid vaccine among dental professionals
3. To assess the symptoms after receiving covid vaccine among dental professionals

**Methodology:-**

This online questionnaire-based survey was conducted after the study was approved by Institutional ethical committee. The target group were the dentists practicing in the private and public sectors in Karnataka, regardless of their specialties and who agreed to participate. 217 dentists participated in this study.

Questionnaire was based on WHO SAGE working group on immunization vaccine determinants. The questionnaire comprise a series of questions about dentists' demographic characteristics, their knowledge, attitude towards SARS-COV2 vaccine.

Study questionnaire was sent to the study participants in the form of google form. The study population included postgraduates, dentists who work in private clinics, government sectors, hospitals, and health care centers Karnataka. Undergraduate students were excluded from the study.

**Statistical Analysis**

Descriptive statistical analysis was used to describe items included in the survey. Categorical variables were expressed as numbers and percentages

**Results:-**

**Study population**

200 participant's data were included in this study. Out of these 67(30.9) were male and 150(69.1%) were females. 96.3% of participants were aged between 22-35 years of age and 3.7% were aged between 30-50 years of age. The demographic data of participants is shown in the table 1.

**General vaccine attitudes**

Five statements were designed to measure acceptance of vaccines based on the 5 point likert scale (Strongly Disagree, Disagree, Neutral, Agree, Strongly Agree).

1. 56.7% believed that getting vaccines is a good way to protect themselves from disease whereas 0.9% disagreed this.
2. When asked whether they trusted vaccination information provided by healthcare and public health professionals, 12.4% of respondents were neutral, 52.5% agreed that this information was trustworthy, and 33.2% strongly agreed.
3. 10.6% strongly disagreed with the statement that new vaccines carry more risk than older vaccines. 47.5% were neutral on this issue.
4. 61.3% of participants strongly agreed with the statement getting vaccinated is important for the health of others in my community. They believe that vaccines are effective. (Fig 1). 78.8% of participants have already received vaccine and 13.4% intend to get it as soon as possible. (Fig 2)

Knowledge and attitude based questions towards covid 19 vaccine of importance, most participants (84.3%) have already received the vaccine. 15.7% participants indicated that they would delay vaccination for different reasons. 1.8% of participants will wait for the effective treatments. 4.1% of participants do not know enough about the vaccine to make a decision. 3.2% of participants believe that vaccine may not be tested prior to approval. None

of the participants want to gain natural immunity to the virus that causes COVID 19. Opinions guiding intentions for a potential coronavirus vaccine were most heavily influenced by the novel and unfolding science of SARS-CoV-2, and the relationship between coverage rates and community transmission. 41.5% of participants believe that SARS-CoV-2 is an evolving science. For more information on vaccines, 22 (10.1%) participants would ask their family, 132 (60.8%) would ask health care workers and 89 (41%) by mass media. (Fig 3)

When asked about the importance of COVID-19 vaccine, 91.7% participants believed it was very important, 6.4% thought it is of moderate importance and 0.5% considered it as not at all important. COVID-19 vaccination should be compulsory, according to 89.9% of participants.

Majority of participants 179 (82%) preferred injectable mode of vaccine administration, followed by 28 (12.9%) for oral route. 166 (76.5%) participants are willing to pay for COVID-19 vaccine if it is not available free of cost while 52 (23.5%) are not willing to pay.

37.8% participants believed that there are better ways to prevent diseases than vaccination. Around 62.2% participants believed that the vaccine strengthens the immune system.

Participants were asked about the preventive measures they took for COVID-19. 194 (89.4%) used to wear a mask all the time, 3 (1.4%) wore it sometimes. 145 (66.8%) followed social distancing all the time, 19 (8.8%) followed it a little.

When asked about the experience with severe adverse reactions (fever, headache or any) following immunization, 49% of participants had symptoms like fever, headache, tiredness/myalgia, bodyache etc.

### **Discussion:-**

We conducted this study among Dental health care Professionals, to understand their attitude and vaccine acceptance. In our study, we found that all the participants knew about COVID-19 and COVID-19 vaccination should be compulsory according to 89.9% of participants. 78.8% of participants have already received vaccine. Majority of them believed that a vaccine is needed to combat COVID-19.

Participants (37.8%) believed that there are better ways to prevent vaccine-preventable diseases. Majority believe that vaccine strengthens the immunity. On inquiring about preventive measures, maximum participants wore masks and followed social distancing, indicating a good awareness regarding prevention for COVID-19.

The role of vaccination experience, it was seen that 49% had adverse reaction to covid vaccination. Tiredness (45%), myalgia (44%), fever (34%), headache (28%), local pain at injection site (27%), joint pain (12%), nausea (8%) and diarrhea (3%) were the most prevalent symptoms.<sup>5</sup>

The majority believed that not only COVID-19 vaccine is important, but also it is important for people to be vaccinated for themselves and their families.

Majority of the participants got information from Health care workers according to our study. But role of internet was profound in providing information source on vaccine for majority of participants.<sup>6</sup>

On analysing 89.9% believed that COVID-19 vaccine should be made compulsory for all. There was some hesitancy regarding vaccination. 15.7% of participants will delay the vaccination. Majority of participants prefer injectable mode of vaccine administration, than oral route.

The wide confidence intervals for some of the variables could be considered a limitation of this study. Potential reasons for the wide confidence interval are the sample size or the lack of variability when the categories of strongly agree/agree and strongly disagree/agree were collapsed.

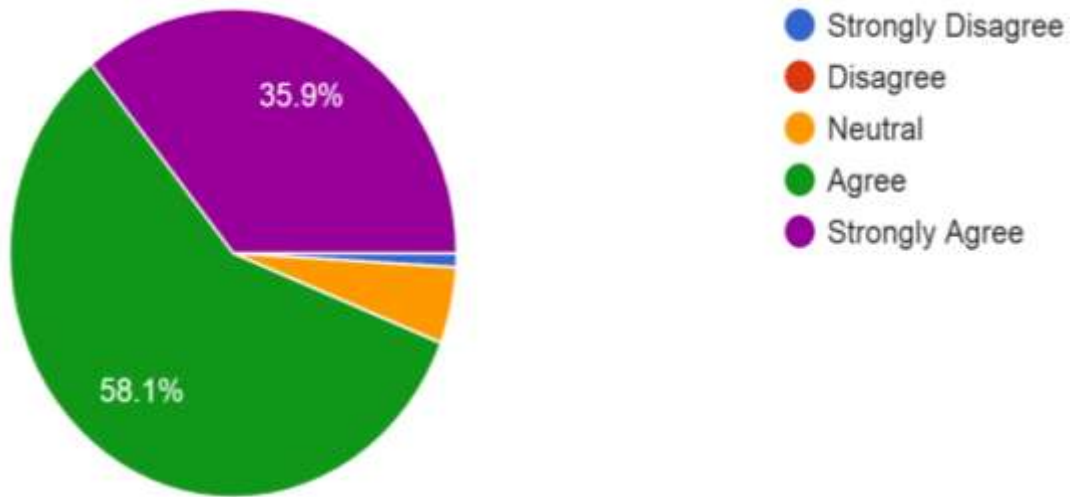
As major vaccine news, political circumstances, and regional epidemiologic data change on a daily basis, it is likely that vaccine attitudes will change frequently over time, and thus will need to be longitudinally monitored.

**Conclusion:-**

In general, one of the strongest correlates of vaccine acceptability among patients is a recommendation from the Health care workers. There is an urgent need to get all healthcare professionals vaccinated to demonstrate their own confidence that the benefits of vaccination outweigh the risks. Dentists can play a critical role in advocating for and providing vaccination to their patients and thereby contributing to the achievement of widespread vaccine delivery .

**Table 1:-** Demographic data of participants.

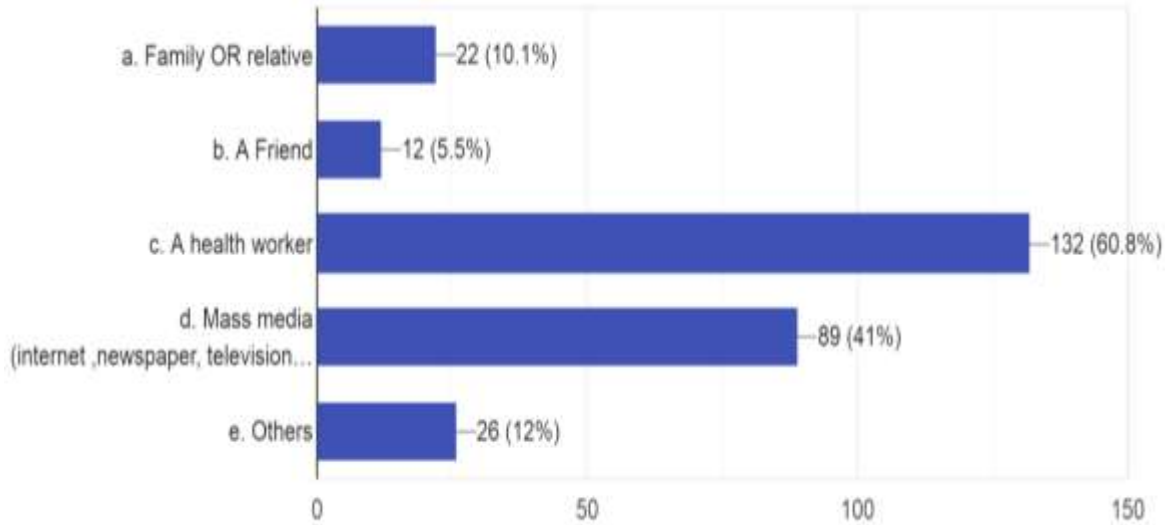
Sr.No	Variable	Category	Values
1	Sex	Male	676(30.9%)
		Female	150(69.1%)
2	Education	Postgraduate	140(64.5%)
		Graduate	77(35.5%)
		Diploma	-
3	Profession	Postgraduate Student	123(56.7%)
		Faculty/Practitioner	94(43.3%)



**Fig 1:-** Overall, vaccines are effective.



**Fig 2:-** A coronavirus (COVID-19) vaccine is available to you.



**Fig 3:-** Whom do you turn to for your information on vaccines?

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