

Response of Vaccination Coverage Against COVID-19 in a Group of Maxillofacial Surgeons from Public Service in Northeastern Brazil: A Case Series Study

Respuesta de la Cobertura de Vacunación contra la COVID-19 en un Grupo de Cirujanos Maxilofaciales del Servicio Público del Nordeste de Brasil: Estudio de Serie de Casos

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Dear editor

The emergence of new coronavirus variants imposed a challenge to the theory of herd immunity. The P.1 (B.1.1.28.1) and delta (B.1.617.2) lineages are more contagious and cause more severe symptoms beyond deaths. For this reason, vaccines have become the only way to control the pandemic (Lopez Bernal *et al.*, 2021; Sabino *et al.*, 2021). This letter discusses some points concerning the impact and benefits of the beginning of COVID-19 vaccination among oral and maxillofacial surgeons of a Public Health Center in Aracaju, Sergipe state (Northeast of Brazil). These surgeons deal every day and directly with COVID-19 patients.

The maxillofacial surgeons' team works in environments with a high viral load and continuous patient flow. Their job requires contact with patients' fluids and exposure to generated aerosols (da Mota Santana *et al.*, 2022). In our institution, as the service integrates hospital's conglomerates, several areas have been shared at the same time by different health specialties during the pandemic. Consequently, because of the susceptibility to the infection, most professionals had COVID-19 (12/13; 92.3 %), experiencing mild to moderate symptoms (Table I). The

mean age of the participants was 45.0 ± 4.14 years (38 - 52 years). Some of our colleagues experienced reinfection and developed prolonged sequelae, including anosmia, hypogeusia, and muscle weakness, featuring the long COVID frame.

The worsening of the global health crisis stimulated the rapid development of new biotechnologies, such as the COVID-19 immunizing agents (Rawat *et al.*, 2021). Even though a strict protocol is applied in all clinical phases to ensure a drug's safety and efficacy before a final release, public health has faced a peculiar obstacle concerning the vaccines: skepticism. Brazilian skeptics distrust the vaccines' safety and regulatory process, mainly the brief synthesis, inability to subdue infectious variants, and fear of unknown adverse effects.

Because of the high number of variants circulating in Brazil, the Ministry of Health started the vaccination campaign (January 18, 2021) and prioritized healthcare workers and the elderly population to receive the first doses. The ANVISA initially released two COVID-19 vaccines for the immunization program — CoronaVac and Oxford/

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AstraZeneca, both nationally produced, in cooperation with the Butantan and Biomanguinhos (FIOCRUZ) institutes. Currently, the national vaccination campaign includes Pfizer-BioNTech and Janssen vaccines, whose substrate for production is restricted only to the responsible pharmaceutical industry (<https://www.gov.br/saude/pt-br>).

Between mid-January and late April 2021, all professionals in the service received two doses of the vaccines produced in Brazil. The clinical profile is summarized in the Table I. The more common reactions were fever, headache, and pain in the arm, often by a maximum period of 24h. Both immunizers presented similar reactions; therefore, none should be repelled by the population. As the number of dental visits progressively returns to pre-pandemic rates, periodic monitoring tests have failed to evidence signs of new infection among oral surgeons after being fully immunized.

Despite the success, adverse effects are described to these vaccines. Data from the United States, Canada, European Union, and the United Kingdom reported symptoms consisting of Bell's palsy, facial swelling, and swelling of the lips, face, and tongue associated with anaphylaxis (Cirillo, 2021). Of note, adverse reactions to vaccines and other medicines are not uncommon. However, once they prevent thousands of deaths annually worldwide, the cost-benefit can be

considered high and essential for global health (Destefano *et al.*, 2018).

On the other hand, occurrences of reactions after the vaccination are a plausible topic for discussion. For this reason, dentists and other clinical specialists are supposed to provide care to recently vaccinated patients (Riad, 2021). In their preliminary survival study, Mazur *et al.* (2021) did not observe a significant correlation between the COVID-19 vaccine and facial and oral manifestations. According to different studies, the vaccines released for emergency use in Brazil showed 95 % efficacy in preventing symptomatic COVID-19, reducing the number of hospitalizations (Yan *et al.*, 2021; Xia *et al.*, 2022). Notably, it has been suggested that patients previously infected with the novel coronavirus, after fully vaccinated, may have an additional protective effect (Wadman, 2021), which may explain the post-vaccination success rate in our oral surgery staff.

Transparently, our preliminary results are constructive and forward-looking. The successful immunization of health care workers, a highly exposed group, may convince the skeptical and reassure the overall population of the safety and effectiveness of receiving the shots. They showed a reduction in professionals' absence, insecurity in the workplace, and infected individuals, serving as an efficient method for SARS-CoV-2 control.

Table I. Clinical profile of oral and maxillofacial surgeons vaccinated in a public center medical during COVID-19 pandemic in Brazil.

Case	Age/Sex	COVID-19 Test Results	Reaction history predicted the vaccine	Vaccine/ Manufacturer /Country	Interval Between Doses	Reported adverse effects	Reported COVID-19 symptoms after Vaccine (1st and 2nd doses)
#1	47 y/ M	Positive	no	Oxford/AstraZeneca (BioNTech, United Kingdom)	3 months	no	no
#2	45 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	no	no
#3	51 y/ F	Positive	no	Oxford/AstraZeneca (BioNTech, United Kingdom)	3 months	Low fever by 24h and slight pain along the arm	no
#4	52 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	Slight pain along the arm	no
#5	45 y/ M	Negative	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	Headache	no
#6	46 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	Pain in anesthesia local and macules on the deltoid muscle	no
#7	47 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	Headache and Slight pain along the arm	no
#8	38 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	no	no
#9	46 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	no	no
#10	41 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	no	no
#11	46 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	Pain in anesthesia local, diarrhea, fever, and myalgia by 24h	no
#12	42 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	no	no
#13	39 y/ M	Positive	no	CoronaVac (Sinovac Life Sciences, Beijing, China)	28 days	no	no

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