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IN A SIX - MONTH LONGITUDINAL INVESTIGATION, BOTH THE MEDICAL AND DENTAL PROFESSIONS OBSERVED INDIVIDUALS WITH POST - COVID VACCINATION SYMPTOMS

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Abstract

Objective

The objective of the study is to observe individuals with post - covid vaccination symptoms in a six - month longitudinal investigation, both the medical and dental professions.

Material and Method A questionnaire based cross sectional study was conducted by enrolling the individuals with post - covid vaccination symptoms in a six - month longitudinal

investigation, by both the medical and dental professions during the period from 10 November 2021 to 10 January 2022 .

Results. Most common side effects were fever, muscle pain, lack of appetite, and nausea, whereas anaphylactic reactions were more common after the first dose. Long-term post-covid vaccination consequences were detected in patients, including Pneumonia 10, ARDS 4, Multi-organ failure 7, and others 9. Males were more susceptible to covid vaccine symptoms following vaccination, and senior citizens were most afflicted, followed by those of medium age.

Conclusion Assessing the safety, efficacy and side effects of the vaccine is urgently needed. Most common side effects were fever, muscle pain, lack of appetite, and nausea. Anaphylactic reactions were more common after the first dose. Long-term post-covid vaccination consequences were detected in patients, including Pneumonia 10, ARDS 4, Multi-organ failure 7, and others 9. We anticipate that our findings will convince the public that vaccinations are safe and worthwhile. Additionally, you can aid in decreasing vaccine hesitancy among people who are concerned about vaccine safety and potential bad effects.

Keywords Covid Vaccine, Post covid symptoms , Longitudinal, Medical Dental professionals

Introduction

Since late March 2021, reports of coronavirus disease 2019 (Covid-19) in India have increased dramatically, with over 400,000 new cases and 4,000 deaths reported daily as of early May 2021. [1] Because of this rise, hospital staff are stretched thin, and oxygen is in short supply. B.1.617 lineages of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) have predominated despite the fact that only a fraction of samples have been sequenced. Initially discovered in December 2020, the B.1.617.2 (delta) variation quickly surpassed all others in frequency reports throughout India by mid-April 2021. On May 19, 2021, the GISAID reported that the variation had been found in 43 nations spanning six continents (originally an acronym for global initiative on sharing avian influenza data but more recently a site for compiling sequence data on viruses, particularly influenza and coronaviruses, that threaten to cause a pandemic). There has been a sharp increase in the number of cases of this variety in the United Kingdom, and it has been linked to both international travel from India and local transmission.[1] As of January 20, 2022, 5,587,549 people across the globe had died due to the severe acute respiratory syndrome-coronavirus-2 pandemic known as Coronavirus Disease 2019 (COVID-19).

Emerging varieties of severe acute respiratory syndrome-coronavirus are considerably more contagious than the original strain, and there are few effective treatments for them. Also, research simulations show that the virus will likely keep spreading all over the world forever. Fortunately, widespread vaccination can reduce the severity and prevalence of COVID-19. Many vaccine candidates were created and began clinical trials in early 2020 in an effort to combat the global COVID-19 pandemic.[2] Vaccines against COVID-19 were quickly approved by the FDA,

and countries around the world launched vaccination efforts.[2] Although over 200 potential vaccines are being researched around the world, there is still doubt over whether or not a stable and highly immunogenic COVID-19 vaccine can be manufactured. After positive results from clinical trials, the Food and Drug Administrations (FDAs) of the United States, Canada, and the United Kingdom approved Pfizer/BioNTech, Moderna, and AstraZeneca for marketing and distribution, respectively. The Government of Ghana (GoG) announced publicly on December 20, 2020 that it will begin purchasing the Oxford/AstraZeneca and Sputnik V COVID-19 vaccines for usage in the region. Preventing COVID-19 sickness, especially severe disease, in people aged 18 and up is demonstrated to be 94.1% effective with AstraZenecca. There is a worldwide shortage of the COVID-19 vaccine, so when Ghana got 600,000 pills from AstraZenecca on February 24, 2021, the government prioritised administering them to those at the highest risk of contracting the disease. Those in the essential services field, the elderly, particularly those with many chronic conditions, and healthcare workers are all at increased risk. Direct or indirect contact with the bodily secretions of COVID-19 patients/clients and visitors puts HCWs at increased risk of developing the disease. As of March 12, 2020, over 1,629 nurses and midwives in Ghana were infected with the virus, with 4 deaths, while more than 450 doctors and dentists were contaminated with COVID-19, with 7 deaths.[4] Leading medical institutions from around the world, including as the Centers for Disease Control and Prevention and the Food and Drug Administration, have conducted extensive reviews to determine the vaccine's safety, efficacy, and adverse effects. The potential advantages of a vaccination must be weighed against its possible dangers before it is developed. Concerns about the safety and efficacy of vaccine-induced immune responses have been voiced in the context of COVID-19 vaccine development. What we hope to accomplish with this research the medical and dentistry communities conducted a longitudinal study of people experiencing post-covid vaccination symptoms for a total of six months, beginning on November 10, 2021, and wrapping up on January 10, 2022. [5,6.7,16.]

Objectives

Rates of adverse effects at various dosages

To identify medical symptoms (side effects) as a result of the post-covid immunization

Side effects observed based on demography

Material and Method

Study Setting, Design and Participants

A questionnaire based cross sectional study was conducted by enrolling the individuals with post - covid vaccination symptoms in a six - month longitudinal investigation, both the medical

and dental professions ,started at 10 November 2021 and ceased on 10 January 2022 . It was a randomized selection from various healthcare service centers and Ethical clearance was obtained and completion of questionnaire by participation was an indication of consent to participate. A questionnaire was served to 410 participants out of which 398 answered containing twenty questions which depicted the rate of adverse effects at various dosages and also identifed medical symptoms (side effects) as a result of the post-covid immunization, further side effects were observed which were based on demography . On November 10,2021 participants began receiving survey questionnaire .

Statistical Analysis

Analyses were conducted using Spss 23.0 . Descriptive analyses were conducted to calculate frequencies an proportions of categorical variables in total study sample .

Results

Rate of adverse effects at various dosages

After both the first and second dosages, 398 participants had fever, muscle aches, appetite loss, and nausea, as shown in Table 1 and Figures a and b. While Chills, Allergic or Anaphylactic Reaction, Low Blood Pressure, Frequent Sneezing and Sore Throat, Pain/Redness/Swelling at the Injection Site, Loss of Smell or Taste, Fast/Thumping Heart, Dizziness on Standing, and Shortness of Breath or Breathing Difficulties were 210, 15, 5, 7,28,4,8,5,9, respectively, from the first dose. Chills, allergic or anaphylactic reaction, low blood pressure, nevertheless, Frequent sneezing and sore throat, Pain/redness/swelling at the injection site, Loss of smell or taste, Fast/pounding heart, Dizziness on standing, and Shortness of breath or difficulty breathing were 190, 13,6,5,19,2,5,6,2 in patients respectively from the second dose. In conclusion, it was observed that the most common side effects were fever, muscle pain, lack of appetite, and nausea, whereas anaphylactic reactions were more common after the first dose. 323 participants believed that the dose of booster was essential. Moving forward, long-term post-covid vaccination consequences were detected in patients, including Pneumonia 10, ARDS 4, Multi-organ failure 7, and others 9. Among these, 68 tested positive despite immunisation, and 363 discovered a correlation between vaccination and allergic reactions. 243 experienced anxiety or panic after vaccination, 110 required hospitalisation following covid vaccines due to the intensity of symptoms, 180 experienced hair loss symptoms, and 310 experienced orofacial area side effects.

Result influenced by demographic variables

Table 2, Figures c and d demonstrate the demographical basis for the observation that males were more susceptible to covid vaccine symptoms following vaccination, and that senior citizens

were most afflicted, followed by those of medium age. Those in administrative services were the most affected, followed by those in the media.

Medical symptoms resulting from covid vaccination

130 reported difficulty with vision, 361 reported weakness in upper or lower limbs, 180 reported facial weakness or numbness, 230 reported difficulty while breathing, excretion or productive cough sputum without expectoration, 108 reported involuntary body movements, tongue bite, and urinary incontinence, and 252 reported chest pain on the left side, shortness of breath.

Table 1- Rate of side effects at different dosage

	N
1. Side effects after first Covid vaccination	
Fever	398
Muscle Ache	398
Loss of appetite	398
Nausea	398
Chills	210
Allergic or Anaphylactic reaction	15
Low blood pressure	5
Frequent sneezing and sore throat	7
Pain/redness/swelling at the site of injection	28
Loss of smell or taste	4
Fast/pounding of heart	8
Dizziness on standing	5
Shortness of breath or breathing difficulty	9
2. Side effects after second vaccination	
Fever	398

Muscle Ache	398
Loss of appetite	398
Nausea	398
Chills	190
Allergic or Anaphylactic reaction	13
Low blood pressure	6
Frequent sneezing and sore throat	5
Pain/redness/swelling at the site of injection	19
Loss of smell or taste	2
Fast/pounding of heart	5
Dizziness on standing	6
Shortness of breath or breathing difficulty	2
3. Booster dose important	323
4 Long term post Covid Vacccination effects observed	
Pneumonia	10
Acute respiratory distress syndrome (ARDS)	4
Multi-organ failure	7
Others	9
5 Got positive after even being vaccinated	68
6 Link between vaccination and allergic reactions observed	363
7 Feeling anxiety or panic after vaccination	243
8 Need hospitalization after Covid vaccinations due to severity of symptoms	110
9.Felt any symptoms related to hair loss	180

10. Felt any side effects related to orofacial region	310

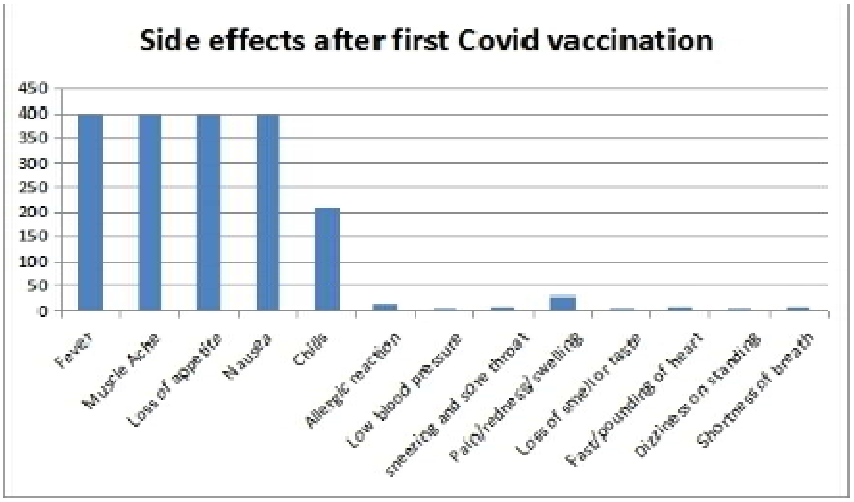

Figure a

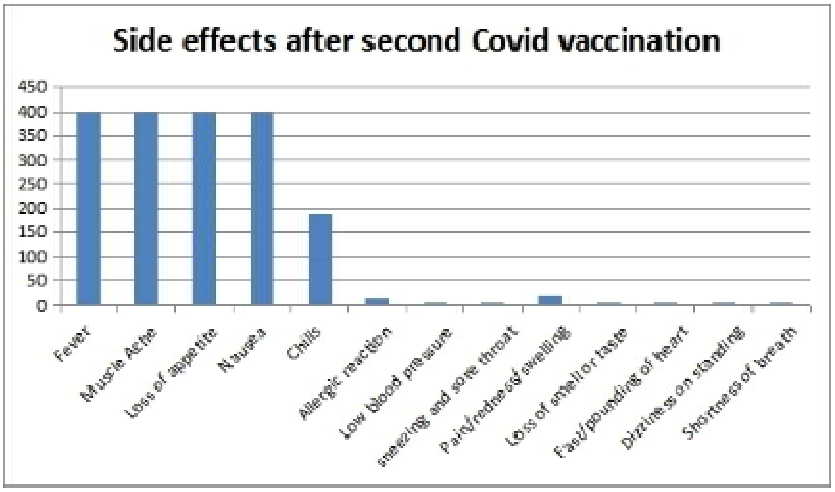

Figure b

Table 2- Side effect based on demographic characteristics

11. Different symptoms of vaccination in different climates	185
12. Gender more prone to Covid symptoms after being vaccinated	
Female	38
Male	360

13. Age group suffers from most post Covid symptoms after being vaccinated	
Youngsters	
Adolescent	
Middle Age	153
Senior Citizen	230
14. Specific symptoms found regarding to any particular occupation	
Healthcare workers	
Admistrative services	192
Paramilitary forces/Military forces	
Bussinessman	
Media personalities	151
Education Department	

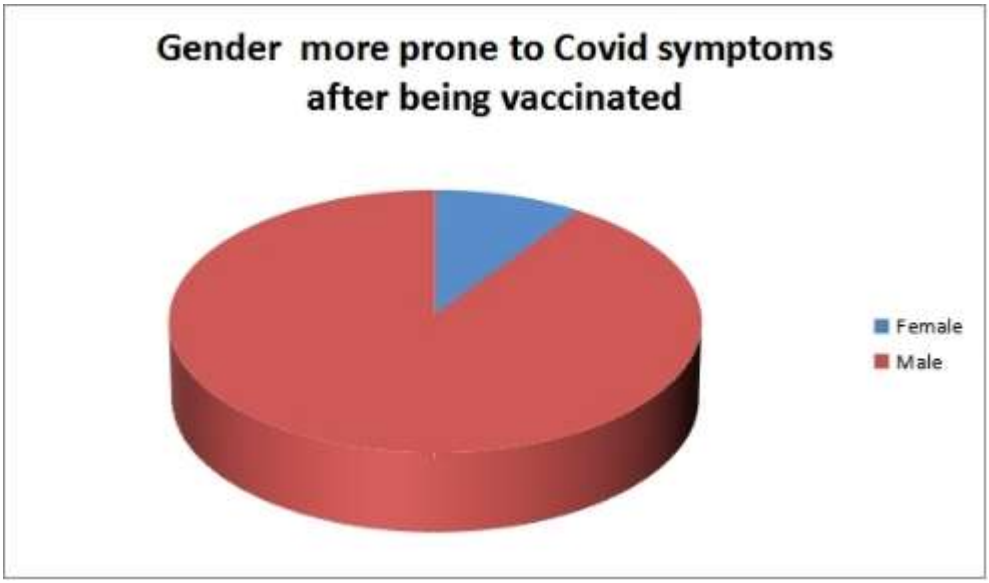

Figure c

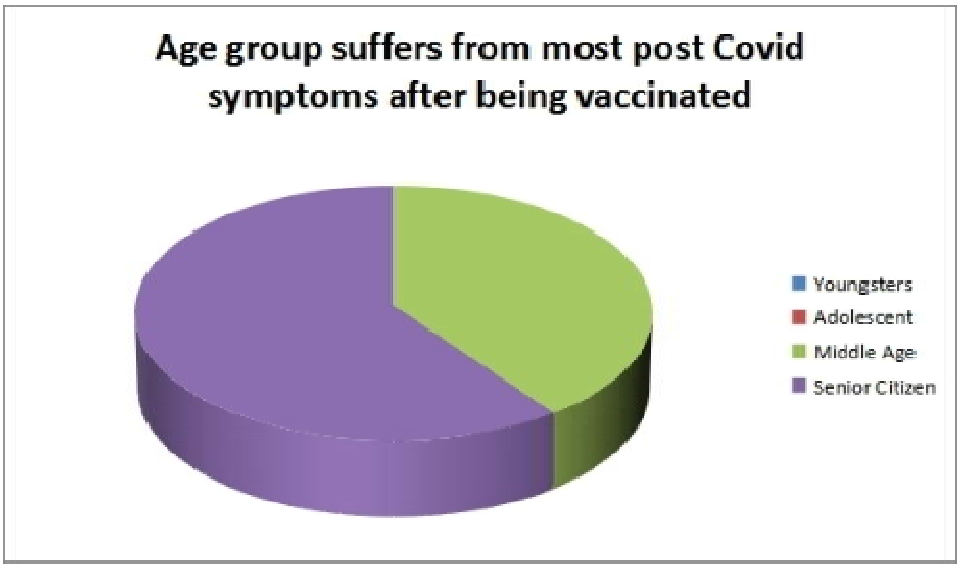

Figure d

Table 3- Medical symptoms as a result of post covid immunization

15. Any difficulty in vision	130
16. Any weakness in upper limbs or lower limbs	361
17. Any of the facial weakness/ numbness	180
18. Difficulty while breathing, exertion or productive cough sputum without expectoration?	230
19. Involuntary body movements, tongue bite and urinary incontinence	108
20. Feel chest pain on left side , shortness of breath ?	252

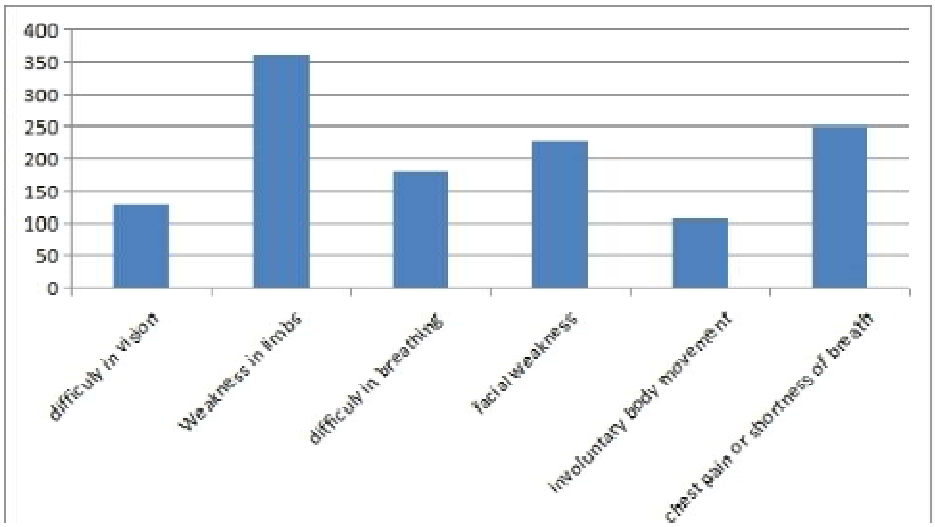

Figure e

Discussion We observed that 97% of the total study participants replied to the questionnaire, and that 398 persons experienced adverse effects such as fever, muscle discomfort, lack of appetite, and nausea following either the first or second dose. While 323 people took part, they all placed value on the booster dose. Moving forward, long-term post-covid vaccination effects were found in participants, such as Pneumonia 10, ARDS 4, Multi-organ failure 7, and others 9. Among these, 68 tested positive despite having received the vaccine, while 36 others discovered a connection between immunisation and adverse effects. Approximately 243 reported experiencing anxiety or panic following vaccination, 110 required hospitalisation following covid vaccines due to the intensity of their symptoms, 180 experienced hair loss symptoms, and 310 experienced orofacial area side effects. Comparing demographic groupings, we find that older adults and middle-aged people are similarly susceptible to developing covid vaccine-related symptoms following vaccination. In contrast, those in administrative roles and the media were hit the worst. After further examination, it was discovered that 130 people had trouble seeing, 361 people had weakness in their upper or lower limbs, and 180 people had weakness or numbness in their faces. About 230 people reported having trouble breathing, 108 people had involuntary bodily movements like twitching or gagging, and 108 people experienced urinary incontinence or biting their tongue. Meanwhile, 252 people complained of chest pain on the left side and shortness of breath. **Menni C et al**[9,10] reported investigations, conducted in the UK community, looked into the efficacy and safety of these vaccines in **2021**. Oxford-AstraZeneca (OXF) and the Pfizer-BioNTech (BNT162b2) (ChAdOx1 nCoV-19) In phase 3 trials, COVID-19 vaccines performed exceptionally well in terms of both safety and efficacy. It was concluded that the rates of systemic and local adverse events following immunisation against nCoV-19 with BNT162b2 and ChAdOx1 are significantly lower than those reported in phase 3 trials. An rise in reported incidences of myocarditis and pericarditis, especially among boys aged 12–29, was noted by

Mayo Clinic staff in 2022[11] following mRNA COVID 19 vaccination in the United States. **In 2012, Sigalos M. et al.**[12] Both manufacturers have warned that their vaccinations may cause symptoms comparable to those of moderate Covid if used. Think about your muscles hurting, feeling cold, and having a headache. In a study published in **2021, Barnes G D et al.**[13] discovered that the AstraZeneca COVID-19 vaccination protected 99.9 out of every 1,000,000 persons and the Johnson & Johnson vaccine protected only 0.9 out of every 1,000,000 people. Among hospitalised COVID-19 patients, the estimated rate of cerebral vein thrombosis is 207 per million, compared to 2.4 per million among the general population. The tiny risk of VITT is outweighed by the much larger risk of death and catastrophic consequences from COVID-19 (including thrombosis). Consequences of vaccination have been depicted in a number of similar research. Pfizer-BioNTech vaccine adverse effects were evaluated by **I. M. Dighriri et al**.[14] in a systematic review published in **2022.** Ten thousand six hundred thirty-two people participated in the fourteen studies. Pain at the injection site (77.34%), fatigue (43%), muscle pain (39.67%), local swelling (33.57%), headache (33.27%), joint pain (25.75%), chills (18.34%), fever (18%), itching (9.38%), swollen lymph nodes (7.18%), nausea (7.58%), dyspnea (7.18%), and diarrhoea (6.36%) were the most common adverse events across 14 studies, on average. After the first dose, about 79% of people experienced adverse symptoms, whereas after the second dose, that number increased to 84%. Average incidence of adverse effects is 69.8% in females and 30.2% in males. **Another study by Maragkis L et al in 2021**[15] Since April 2021, some people who received the Pfizer-BioNTech or Moderna coronavirus vaccines in the United States have developed myocarditis (inflammation of the heart muscle) and pericarditis (inflammation of the lining outside the heart), according to the Centers for Disease Control and Prevention (CDC). Adolescents and young adults, especially men, are disproportionately affected by the issue.

Conclusion Our research shows that adverse reactions to vaccines are widespread, although typically moderate and temporary. The majority of adverse responses occur locally, most commonly as discomfort at the injection site. Anaphylatic shock and other life-threatening allergic responses are unusual. We anticipate that our findings will convince the public that vaccinations are safe and worthwhile. Additionally, you can aid in decreasing vaccine hesitancy among people who are concerned about vaccine safety and potential bad effects.

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