Original Article

An Inquiry Into The Causes Of COVID-19 Precaution Dose Vaccine Fatigue Among The Adult Population In Assam (India)

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DOI: 10.47750/pnr.2022.13.S07.748

Abstract

When COVID-19 vaccines got authorization for emergency administration in order to attain immunity of the population against the pandemic in India, the Government rushed the people to get vaccinated. But two years into being vaccinated with the primary doses, the efficacy of the doses decreased and infection with COVID increased. The Government of India introduced the precaution dose on 10th January, 2022, but not much vaccination turn out is observed in case of precaution dose. India is facing what is known as vaccination fatigue which is causing vaccination hesitancy. This study identified the causes of vaccination fatigue among the adult population in the state of Assam, the primary cause being pandemic fatigue. With the increase in COVID cases worldwide, The Government should implement necessary steps to conquer the vaccination fatigue and decrease the vaccination hesitancy in the state.

Keywords: COVID-19, Infection, Pandemic fatigue, Vaccination fatigue

Introduction

Coronavirus Disease 2019 or COVID-19, caused by severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2), after its emergence in Wuhan City of Hubei province of Central China in December 2019, was declared as a 'pandemic' on 11th March 2020 by the World Health Organization as it crippled the world population with rapid spread of infections and death (Das et al., 2020; Wu et al., 2020). By April 2021, this pandemic infected more than 170 million people and caused more than 3 million deaths globally (Hillis et al., 2021). As of date, India has 44 million confirmed COVID-19 infected cases and more than half a million reported deaths [World Health Organization (WHO), n.d.]. The initial preventive measures adopted by almost every government around the globe included the imposition of absolute lockdown to curb the spread of the virus through physical contact (Das et al., 2020). After the sequencing of SARS-CoV-2 in early 2020, there was rush in the pharmaceutical world to address COVID-19 through the development of vaccines (Wu et al., 2020). The developing of a vaccine at the fastest, from viral sampling to approval, was previously achieved in 4 years for mumps in the 1960s but this record was broken when within a year the Pfizer vaccine of the drug giant Pfizer with German biotech firm BioNTech received emergency use authorization from the Food and Drug Administration (FDA) in December 2020 (Ball, 2020). Vaccines as Oxford–AstraZeneca, Pfizer–BioNTech, Sputnik V, Covaxin, etc. received authorization for emergency use in more than 10 countries. After the COVID-19 vaccines got approved, the governments of the countries started vaccination drives to obtain immunization of its population against the Coronavirus.

In our country, India, the first phase of vaccination drive was started from 16th January, 2021 (Chauthaiwale, 2021). Covaxin®, which is India's indigenously developed COVID-19 vaccine by Bharat Biotech with the Indian Council of Medical Research (ICMR) - National Institute of Virology (NIV) (Bharath Biotech,

n.d.), and Covishield®, the local AstraZeneca's vaccine variant, received emergency use authorization (EUA) in the country by the Central Drugs Standard Control Organization (CDSCO). The Russian vaccine Sputnik V was approved for emergency use by the Drug Controller General of India on April 13, 2021 (Perappadan & Koshy,2021) and Moderna vaccine (mRNA-1273) on June 30, 2021 (Kaul, 2021). India was able to administer 54.7 million doses of COVID-19 vaccines which included 33.8 million dose one and 20.8 million dose two between January 1st to 7th, 2022 (CoWIN, 2022). In case of Assam, the state administered a total of 10.9 lakh doses between 1st to 7th January 2022 which included 7.4 lakh of the total vaccinated population to be administered first dose and 3.5 lakh vaccinated with dose two (CoWIN, 2022).

Many studies have found a decrease in immunity from both the doses of the COVID-19 vaccines and this has necessitated the requirement of the population to vaccinated with a booster dose to maintain the immunity against COVID-19 and its various variants (Rogers, 2022; Menni et al., 2022). The precaution dose or booster dose is the third dose of the COVID-19 vaccine administered after six months of the second dose to boost immunity against the disease through increasing the antibody count. In India, the precaution dose was first rolled out on January 10th, 2022, but it has been observed that though India's COVID-19 vaccination coverage exceeded 200 crores for the first two doses, the turnout for the precaution dose is rather quite low ("Precaution dose: Boosting…", 2022). This low turnout for vaccination in case of the precaution dose can be associated with vaccine fatigue which gives rise to vaccine hesitancy. The WHO Strategic Advisory Group of Experts (SAGE) defines vaccine hesitancy as "delay in acceptance or refusal of vaccination despite availability of vaccination services" (MacDonald et al., 2015). The vaccination drive against COVID-19 for the first two doses witnessed hesitancy in almost every country; the drivers of which have been identified in various studies conducted globally and regionally to be mainly concerns regarding the side effects of the vaccine and the efficacy of the vaccine owing to its rapid pace of development, the ignorant assumption that COVID-19 is not severe and that it is a Chinese conspiracy, lower self-perceived risk of contracting COVID-19, not having chronic medical conditions, negative perceptions and attitude towards healthcare quality, mistrust in government, misinformation about the vaccine, technical illiteracy, conspiracy theories regarding the vaccine, etc. (Arce et al., 2021, Aw et al., 2021). For the precaution dose, the highest turnout for vaccination pan-India was 37.04 lakhs in the first week of its roll out and it gradually decreased in the first week of July 2022 to later on increase in the administered dose number to reach 17 million between 23rd to 29h July, 2022. After that the number of doses administered gradually decreased. In case of Assam, 37 thousand doses were administered between January 8th to 14th. This number increased to reach 5.7 lakh between 16 to 22 July, 2022 and then again decreased (CoWIN, 2022). This sudden spike in the number of precaution dose was the drive under the Azadi Ka Amrit Mahotsav campaign by the Government of India under which the precaution dose was made freely available to the adult population of the state from July 15th till the next 75 days ("Precaution dose: Boosting…", 2022). Only 8 per cent of the eligible Indians got vaccinated with the precaution dose till 14th July since its roll out in January. The percentage vaccinated has increased to 11 per cent of the 69-crore eligible Indians after the initiation of free drive but it is still low. The Government now blames the decreasing fear for COVID-19 in the public for the lower precaution dose vaccination turnout rate (Ghosh, 2022). According to experts, Indians could be experiencing vaccine fatigue in the case of the precaution dose. The reluctance in getting administered this dose is mostly attributed by the experts to a combination of fear, confusion and misinformation ("Vaccine fatigue amid Covid-19 resurgence…", 2022). According to Su et al. (2022), "vaccine fatigue could be understood as people's inertia or inaction towards vaccine information or instruction due to perceived burden and burnout". This perceived burden and burnout can be physical, mental, financial as well as emotional. This study tries to understand the underlying causes of vaccine fatigue among the adult population of the state of Assam and its effect on the precaution dose vaccine hesitancy.

Methodology

Study design and sample information

The study was carried out through an online focus group discussion consisting of five participants who were selected following a purposive sampling method based on their convenience and availability. The group of five participants consisted of three females and two males in the age range 29 to 50 years. The discussion conducted

in the month of August, 2022, continued for one-hour duration. Of the five participants, only two have been administered with COVID-19 precaution dose till the date of interview. The highest educational qualification of four participants is Masters Degree while for one it is Doctorate in Philosophy Degree. Currently two of the five participants are employed in public sector, one is employed in private sector, one is self-employed and one is unemployed. As it is a qualitative study the number of participants though limited will reflect the result adequately.

Data analysis

The qualitative data obtained from online focus group discussion was consequently transcribed, coded and categorized to derive relevant themes regarding vaccine fatigue.

Codes	Themes
• Fear • Decrease • Reinfection • Immunity	Decreasing fear of COVID-19 and its variants
• Not wear mask • Crowd • Emotional • Mental • Physical	Pandemic fatigue
• Efficacy • Infection	Efficacy of the COVID-19 vaccines in question
• Heart ailments • Heart attack	Precaution dose associated heart attacks myth

Source: Focus Group Discussion, 2022

Results and Discussion

Decreasing fear of COVID-19 and its variants

After living with COVID-19 since 2020, the people have gotten accustomed with the disease. The fear of getting infected or reinfected with any variant of COVID-19 does not seem to cause the same anxiety that was prevalent among the population in 2020 and 2021. Sorgo et al. (2022) in their study found the fear of COVID-19 to play a mild and significant role in COVID-19 vaccine hesitancy among the Slovenian postsecondary students. The study too stated that students showed less vaccine hesitancy intentions when they faced higher levels of fear of COVID-19. Majority of the participants of the study showed precaution dose hesitancy as they hold no anxiety and fear against the disease resurfacing in them or their family and the participants who already got vaccinated too hold no anxiety about COVID-19 reinfection. One participant was quoted saying “I have been infected with COVID twice, I have now no fear of getting reinfected again”. Living two years with the disease have normalized the fear and anxiety among the people to a certain extent which has resulted in the less turnout in case of precaution dose vaccination. Many also believe that after being infected once with COVID-19, they are now immune to further infections.

Pandemic fatigue

When one copes with a certain pandemic, the fear against the pandemic gets normalized. Once the fear gets normalized, one starts to not display protective behaviours against the pandemic due to reasons numerous but most importantly due to the mental, emotional, physical, financial hardships that one had to face during the initial

days of the pandemic. The World Health Organization (2020) has defined pandemic fatigue as "the demotivation to follow the recommended protective behaviours, emerging gradually over time and affected by a number of emotions, experiences and perceptions". Pandemic fatigue is an expected and natural reaction to a prolonged crisis and its associated inconvenience and hardships. This reaction is the state of getting exhausted by the authority recommended precautions against the pandemic and the reactions of the people towards the pandemic and the precautions. This state is usually the result of extensive restrictions imposed on day-to-day activities which hampers the normalcy in life and triggers boredom, anxiety and even depression. To get out of this state and to achieve a certain amount of normalcy in their lives, the people tend to abandon the precautions and preventions issued by government even though they are exposing themselves to the risk of getting infected or reinfected. The study participants have shown trends of pandemic fatigue. Majority do not wear mask while being among the public nor do they bother whether anyone else is wearing or not. The participants are also not afraid of being part of large gatherings which is strict no in COVID times and many have been part of book fair, marriage functions, cultural rally, etc. "I feel uncomfortable wearing mask now", a participant stated. This clearly depicts how people are exhausted with the pandemic.

Efficacy of the COVID-19 vaccines in question

The need for getting a booster or precaution dose to retain effective immunity against COVID-19 is seen by many people as a failure of the first two primary doses. Mattiuzzi and Lippi (2022) in their study found the primary COVID-19 vaccination efficacy to be 76–92% within 6 months, and a decrease in efficacy by 34–80% after 6 months of getting vaccinated. The administration of COVID-19 vaccine booster or precaution doses decreased COVID-19 infections by 65%, and hospitalizations and deaths by 69% and 97% when compared with the vaccine efficacy of the primary doses after 6 months of being administered. Moreover, the booster dose to decreased CO VID-19 infections by 39% within the 6 months as compared to the primary doses. The study thus displayed the importance of the booster doses for restoring vaccine efficacy against COVID and in curbing COVID-19 infection. But the laymen lack the understanding of the booster or precautionary doses and start questioning the need to get it administered. They see the primary doses as failed attempt of the Government to curb COVID-19 and they also assume the strict vaccination norms adhered by the Government as dictatorship. Of the three non-vaccinated participants, one held the view that getting administered the two primary doses was a waste and stated "I told my parents not to get vaccinated with the precaution dose, the other two did not work and neither will this." , while the two other participants acknowledged the decrease in efficacy of the primary vaccines but are still afraid to get administered with the precaution dose.

Precaution dose associated heart attacks myth

There has been a myth circulating in the social media platforms associating the precaution dose of COVID-19 vaccine with heart inflammation or even heart attack. In a report by Mint (2022), Dr. Ajay Madhukar Naik, a renowned cardiologist at Marengo CIMS Hospital, Ahmedabad, stated

> As per the data provided by The Indian Heart Association, Indians tend to suffer from heart ailments at an earlier age than other demographics, often without warning. Contrary to the earlier belief that heart-related issues impact only the elderly population, it is found that 50 percent of all heart attacks in Indian men occur under 50 years of age and 25 percent of all heart attacks in Indian men occur in their 30s

This is the product of the unhealthy lifestyle that one leads today. Burdened with lifestyle diseases like diabetes, high cholesterol, hypertension, etc. due to one's poor lifestyle choices as increased intake of junk food, alcohol consumption, glued desk jobs, decreased physical activities, decreased sleep and increased stress giving rise to numerous cardiovascular diseases. Covid and post-Covid conditions in an individual with already existing heart conditions, further aggravate the conditions, leading to cardiac problems and in some cases heart attacks and even death. But no correlation has been found between precaution dose and heart attack. In fact, the precaution dose restores the effectiveness against COVID-19 as over the time the efficacy of the two primary doses fades ("Are Covid-19 booster….", 2022; "No link between heart…", 2022). Two of the three participants who have not yet been administered with precaution dose expressed fear against developing heart ailments and even suffering a heart attack. The two vaccinated participants stated their family members to be having the same fear regarding

heart attack and precaution dose and are hesitating to get vaccinated. A participant stated “My parents are afraid that I took precaution dose looking at the news going around in social media. They ask me not to take much work stress and to care for my health”. This proves how myths influence the perceptions of people.

The above four underlying vaccine fatigue causes have clearly affected the precaution dose turnout in the state with only 7.86% of the total population of the state being administered with precaution dose since its roll-out on 10th January, 2022 till 5th of August, 2022.

Conclusion

This study, though qualitative, gives an insight into the underlying causes of vaccine fatigue in case of COVID-19 precaution dose among the adult population of the north-eastern state of Assam and also depicts its effect on the precaution dose vaccine hesitancy. Of the four obvious reasons, pandemic fatigue is the most relevant. Vaccine fatigue is not new but old and so is pandemic fatigue and both are positively corelated. The limitation of the study was that the focus group discussion included only five participants from two districts of the state, but the study being qualitative the sample size was adequate to reflect the necessary result. Not much studies have been conducted on vaccine fatigue and in case of Assam, this is a pioneer study. With the resurgence of COVID in China, it is high time that our State Government and the Government at the Centre adopt appropriate steps to increase the administration of precaution dose among the population of the state and country.

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