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GUIDE TO UNDERSTANDING PSYCHIATRIC EFFECTS OF SINOPHARM VACCINE

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Abstract
The COVID-19 pandemic posed serious threats to society, necessitating the development of vaccinations. Vaccination efforts faced challenges, including potential systemic and psychological side effects. Reports indicate that many recipients of the COVID-19 vaccination experienced mild side effects such as fatigue and injection site pain, while a minority reported more severe mental health issues like anxiety and panic attacks. Notably, these effects were typically temporary, subsiding within days. A cross-sectional study of 500 people who received the Sinopharm COVID-19 vaccine found that 13 participants experienced mild psychiatric symptoms after the first and second doses of Sinopharm vaccine, assessing their psychiatric responses after each dose and during follow-ups at six months and one-year post-immunization. Results showed that eight participants reported psychological symptoms after the first dose, including anxiety and dizziness. Monitoring after the second dose revealed 5 mild psychological adverse reactions, and no psychiatric issues like bipolar disorder or depression were observed at the six-month mark. However, some participants did experience migraines and episodic headaches, linked to other factors. A year later, follow-up assessments found no new vaccine-related psychiatric concerns, confirming the vaccine's safety.

Key words: psychiatric adverse events, psychiatric adverse effects, vaccine adverse effects study, adverse events from vaccine, immunization adverse effect, what is a vaccine adverse event, adverse vaccine response, neuropsychiatric adverse events, vaccine psychiatric symptoms, COVID-19 virus, COVID vaccines, Sinopharm COVID-19 vaccine, psychosis after covid-19 vaccination, vaccine psychiatric symptoms, psychiatric symptoms of covid-19, is mental illness a side effect of covid-19 vaccine, sinopharm covid-19 vaccine, acute psychosis after covid-19 vaccination, vaccine psychiatric symptoms.

Introduction

The COVID-19 virus, commonly known as the novel coronavirus, has garnered global attention since its initial identification in Wuhan, China, in December 2019 [1]. Its rapid transmission has resulted in a worldwide pandemic, affecting millions and causing significant disruptions to everyday life [2]

Vaccines are acknowledged as one of the most effective strategies for preventing COVID-19 infections and their related complications. Following the commencement of the first human clinical trial for a COVID-19 vaccine on March 3, 2020, a total of 296 vaccines have been developed as clinical and pre-clinical candidates by August 20, 2021. Despite the confirmed safety and efficacy of various COVID-19 vaccines, public concerns regarding potential adverse effects persist, influencing individuals' willingness, hesitance, and refusal to receive the vaccine. Mitigating psychological stress or apprehensions about the COVID-19 vaccine could enhance public confidence and acceptance of vaccination [3].

Prior to receiving authorization for public use, vaccines are required to undergo comprehensive testing in clinical trials to demonstrate their safety and effectiveness. Alongside the challenges posed by new variants and reduced immunity, there have been instances of rare side effects linked to certain COVID-19 vaccines. Concerns about safety, especially regarding issues such as blood clotting disorders and myocarditis, have fueled vaccine hesitancy in specific populations. Furthermore, the period after vaccination may evoke various psychological responses as individuals adjust to a return to normalcy. It is essential for mental health professionals to acknowledge the potential psychological obstacles that may emerge post-vaccination and to provide appropriate support and resources for effective coping. As the global COVID-19 vaccination campaign advances, there is an increasing emphasis on the mental health effects that some individuals may experience after vaccination. While the majority of recipients encounter mild side effects, such as soreness at the injection site or fatigue, a smaller group has reported more significant mental health challenges, including anxiety, depression, or panic attacks, which can be distressing. It is crucial to understand that these mental health effects are usually temporary and resolve within a few days.

Given that COVID-19 vaccinations provoke an immune response similar to that of the actual virus, it is reasonable to anticipate that they may result in similar consequences. The literature has already presented case reports highlighting various psychiatric symptoms that can arise after COVID-19 infection [4].

Upcoming research should aim to explore the mechanisms that might be responsible for mental side effects experienced after vaccination, as well as to devise methods for preventing or alleviating these issues. By addressing these mental health challenges in a timely and empathetic way, we can help ensure that everyone enjoys the protective benefits of the COVID-19 vaccine without jeopardizing their mental well-being.

In the past few months, there have been accounts of psychiatric adverse events occurring after COVID-19 vaccination. Although most recipients of the vaccine report only mild side effects, there are infrequent instances where individuals have exhibited psychiatric symptoms, including anxiety, depression, and, in some cases, psychosis.

The studies carried out identified two instances of anxiety-related adverse events (AEs) that occurred after COVID-19 vaccination. The first research indicated that within the 19,163 reported adverse events, there were 129 cases of anxiety, 30 episodes of panic attacks, and 11 occurrences of agitation [5]. The second study, which included 28,031 participants, reported a total of 71,480 AEs, with anxiety cases amounting to 221 (0.58%) for the BNT162b vaccine, 207 (0.64%) for the ChAdOx1 nCoV-19 vaccine, and 5 (0.53%) for the mRNA-1273 vaccine [6].

The precise mechanisms underlying these adverse events remain unclear; however, researchers suggest that they may be linked to factors such as individual vulnerability, pre-existing mental health issues, or immune responses elicited by the vaccine.

The purpose of this study was to analyze the available literature on psychiatric adverse reactions resulting from COVID vaccines. A comprehensive search of electronic databases, such as PubMed and Google Scholar, led to the discovery of 11 reports that documented 14 cases of psychiatric reactions. The majority of these cases involved altered mental states, psychosis, mania, depression,

and functional neurological disorders. Most affected individuals were young or middle-aged adults, and all reports were associated with either mRNA or vector-based vaccines. Nearly 50% of the psychiatric symptoms observed were reported after the administration of the Oxford-AstraZeneca vaccine [7].

The findings of this study propose a potential association between the Pfizer-BioNTech (BNT162b2) COVID-19 vaccine and the onset of anxiety symptoms in individuals who already suffer from mental health disorders [8].

Considering all these factors, we collected information from individuals who had received the Sinopharm vaccine. The introduction of the post-Sinopharm vaccine has had a notable effect on the global community, bringing about both positive and negative implications. Psychologically, it has generated feelings of relief and hope for many who are keen to restore a sense of normality. The vaccine offers a layer of security against the potentially fatal virus, enabling individuals to feel more empowered regarding their health. On the downside, it has also led to adverse psycho-social effects, including the rise of vaccine hesitancy and fear driven by misinformation and conspiracy theories circulating online. Additionally, on a societal level, the vaccine's introduction has intensified existing inequalities, sparking debates and divisions within communities over its effectiveness and safety. we gathered data from individuals who received the Sinopharm vaccine after their first and second doses, as well as at six months and one-year post-vaccination, to assess both short-term and long-term psychological side effects.

Method

This study employs a cross-sectional design. A total of 500 residents participated, with thorough follow-up conducted and all necessary details collected after obtaining informed consent from each participant. We compiled extensive information from individuals who attended vaccination sessions, utilizing a questionnaire that captured demographic data, medical history, and psychological background. This information was then compared to assess the long-term effects of the Sinopharm vaccine, including relevant details such as gender, occupation, economic status, and any side effects experienced during the specified time frame, along with associated signs and symptoms.

Procedure

We administered the Sinopharm COVID-19 vaccine to the chosen individuals using sterile techniques, ensuring that informed consent was obtained both prior to and following the first dose, as well as for the second dose. All participants were instructed to return if they experienced any side effects, especially those of a psychological nature

Exclusion criteria

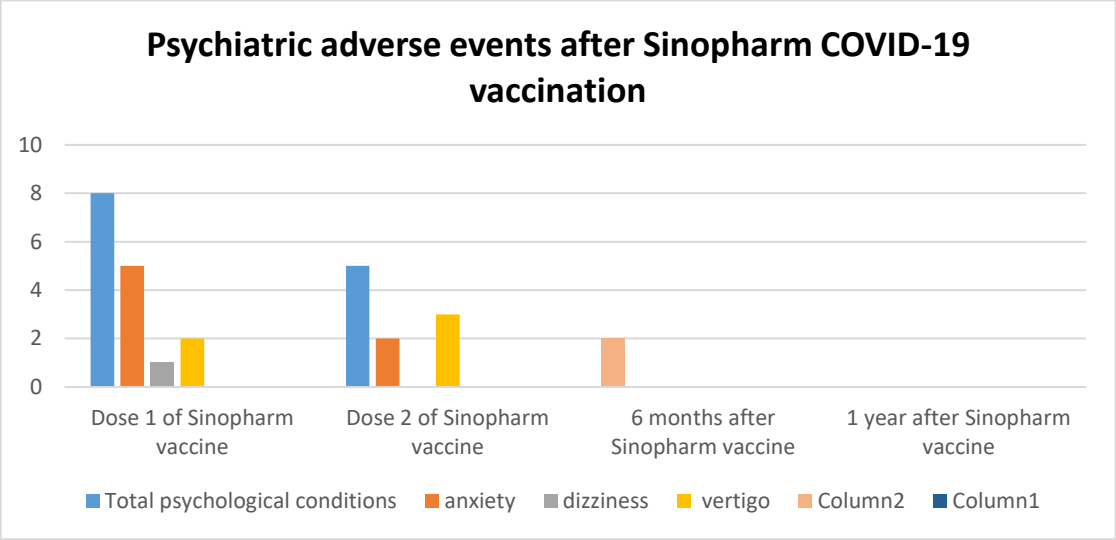
Participants with acute or chronic infections, those under 10 years old, or over 80 years old are not eligible for the study. Additionally, individuals exhibiting neurological symptoms, experiencing persistent migraines, or having a history of related systemic or psychological conditions will also be excluded from participation.

Inclusion criteria

The study included individuals aged over 10 years without any active infections, as well as those under 80 who have received two doses of the Sinopharm vaccine. Additionally, vaccinated individuals who suffer from occasional or mild headaches were also part of the study.

Statistical analysis

This data comes from a designated region. There have been no notable psychological effects observed. To enhance the interpretation of the findings, standard descriptive statistics are illustrated graphically, facilitating a better comprehension of the information presented in this study**.**



Graphical representation of Psychiatric adverse events after Sinopharm COVID-19 vaccination

Result

Following the administration of the first dose, a significant number of individuals were vaccinated with the Sinopharm vaccine. However, based on our established inclusion and exclusion criteria, we selected 500 residents from District Central, Karachi, Pakistan. These individuals received their first and second doses according to a 56-day schedule. Throughout this period, which continued until May 2022, a total of 13 participants reported experiencing psychological symptoms.

Five participants experienced fear following their first dose of the vaccine, accompanied by mild anxiety and headaches that subsided within 30 minutes. This reaction is primarily attributed to anxiety related to the vaccination. One participant reported dizziness after the initial dose, which resolved within 5 minutes, while two others experienced mild vertigo lasting for 5 minutes after the first dose.

After 56 days of 1st dose of Sinopharm vaccine

After a period of 56 days, upon returning for the second dose and after collecting all relevant data, we found that there were no psychological side effects associated with the Sinopharm vaccine reported among these residents till now. Two participants experienced mild headaches, which were also noted prior to vaccination, while three females reported instances of hypotension. This was attributed to inadequate food intake and the warm weather conditions.

After the second dose of Sinopharm vaccine

The participants then received their second dose of the Sinopharm vaccine. Two of the female recipients experienced anxiety following the injection, while three participants —two females and one young male—reported feelings of vertigo after receiving the second dose. This vertigo subsided within 5 to 10 minutes' post-vaccination.

6 months after vaccination

No psychological symptoms such as depression, anxiety, pain, bipolar disorder, or any type of headaches were observed in these individuals. Seven participants reported experiencing headaches, which they had prior to vaccination, while two participants reported migraines that were not present before receiving the vaccine. This raises questions and concerns regarding whether these symptoms are side effects of the vaccination or attributable to other factors.

1 year after vaccination

Some individuals mentioned experiencing mild headaches occasionally, which they had prior to receiving the vaccination. Two participants reported heightened anxiety and stress linked to personal

circumstances, clarifying that these feelings were not related to the vaccine. In contrast, three participants who initially reacted with concern and tension found that their symptoms improved following the vaccination.

Follow up of migraine patients

Upon conducting a thorough follow-up with the two participants who experienced episodes omigraines, we observed that one individual had three migraine episodes, while the other encountered a single episode following comprehensive evaluation. It was determined that the episodes of migraine in one individual were triggered by dining out and consuming cheese and baked goods, whereas the other individual reported a migraine after exposure to a strong fragrance used by his father. Consequently, after careful investigation, it was concluded that these migraines are not related to the vaccine.

Discussion

It has been noted that this pandemic presents a considerable risk to everyone and has various effects on our health and overall well-being. Consequently, it is essential for individuals to choose their preferred vaccine to safeguard themselves. In light of the availability of multiple vaccines, we have decided to examine the Sinopharm vaccine to assess its psychological effects on recipients both in the short and long term. In summary, vaccination is generally regarded as a safe practice. However, some studies indicate that a small percentage of individuals may experience psychological effects, particularly associated with Pfizer, AstraZeneca, or Moderna mRNA vaccines. Our focus, however, is solely on the Sinopharm vaccine, and to date, no psychological implications have been reported in connection with it.

Through a thorough examination of relevant details and comprehensive patient histories, our research indicates that the Sinopharm COVID-19 vaccine does not result in psychological side effects among individuals who received either the first or second dose. Initially, from a sample of 500 residents, 8 individuals reported experiencing psychological symptoms after 1 dose. Specifically, 5 individuals who received the first dose reported feelings of fear, along with mild anxiety and headaches attributed to the vaccination. Additionally, 1 individual experienced dizziness, while 2 others reported mild vertigo lasting approximately 5 minutes following the first dose. Furthermore, 2 females experienced anxiety related to the injection, and after the second dose, 3 participants (including 2 females and 1 young male) reported vertigo, which subsided within 5 to 10 minutes' post-vaccination.

The second dose of the Sinopharm vaccine was administered over a 56-day period, during which we closely monitored any psychological effects or feelings experienced by individuals. No adverse psychological reactions were reported, indicating the vaccine's safety. After a six-month follow-up, there were no indications of psychological issues such as anxiety, depression, or bipolar disorder among the participants. However, seven individuals did report episodic headaches, which they had experienced prior to vaccination, and two participants reported migraines—one with three episodes and another with one. Long-term observation revealed that these migraines were often triggered by specific factors, such as dining out and consuming cheese or baked goods, and one participant experienced symptoms after exposure to a strong fragrance from his father. After one year, a follow-up assessment showed no new psychological issues related to the vaccine. Two residents did report anxiety and depression, but these were attributed to personal circumstances rather than the vaccine. Interestingly, three individuals who previously exhibited heightened sensitivity to minor stressors demonstrated improved mental resilience. In summary, the Sinopharm vaccine appears to have no negative psychological side effects and may even have a beneficial impact on some individuals.

It is essential to emphasize that the incidence of psychiatric adverse events after COVID-19 vaccination is exceedingly rare, and the advantages of vaccination significantly surpass any potential risks. As more people receive the COVID-19 vaccine, it is vital for healthcare providers to stay alert

for any possible psychiatric adverse events and to offer appropriate monitoring and support for those who may exhibit symptoms. In instances where individuals experience psychiatric symptoms post-vaccination, healthcare professionals should perform a comprehensive evaluation and provide prompt intervention to address any mental health issues. Furthermore, additional research is necessary to enhance our understanding of the connection between COVID-19 vaccination and psychiatric adverse events, as well as to formulate strategies to reduce any potential risks linked to vaccination.

Limitations

This study is subject to several limitations, including the restricted data set of individuals, who received both doses of the Sinopharm vaccine over a limited timeframe. Our findings are confined to specific areas within District Central, Karachi Pakistan and it is possible that other regions may present significant discussions regarding psychological impacts. Additionally, we did not address other vaccines such as Pfizer, Moderna, AstraZeneca, or Sinovec, which have been noted in various research studies for their psychological implications.

Conclusion

In summary, vaccination is generally regarded as a safe practice. It is essential to gather data on the psychiatric effects associated with vaccines to facilitate prevention, and there is a need for an algorithm to monitor and address mental health responses following vaccination for effective management. Our study, based on a thorough investigation of the participants from whom we collected data, has determined that the Sinopharm COVID-19 vaccine does not present any psychological side effects, both in the short term and up to one-year post-vaccination. Research on psychiatric side effects following COVID-19 vaccination remains limited, making it difficult to draw definitive conclusions regarding the benefits or drawbacks of the vaccine. According to our findings thus far, the Sinopharm COVID-19 vaccine has been generally safe. To better understand its long-term effects, it is imperative to maintain follow-up with all clients and conduct regular assessments to evaluate its future implications on mental health and other health-related concerns.

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