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Research Article

An Assessment Report on the Symptoms Following Covid-19 Vaccinated Population

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Abstract

Objectives: The off-late emerged corona virus 2019 (COVID-19), which was brought by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) had a significant negative impact in human health. Multiple vaccines were developed and delivered in just one year after the epidemic began. The effectiveness of several new vaccinations significantly exceeded expectations, and there is a good chance that the COVID-19 will be nullified soon. However, several challenges still persist. The idea of advanced countries' vaccination programs is far developed means that the world's population will soon acquire protective immunity to this dreadful disease. Additionally, vaccine hesitancy is a major problem, particularly in young people who often deal with COVID-19 well and exhibit few to no symptoms. The remarkable side-effects related to the COVID-19 vaccine are well documented. In the present study, we focused on the determination of substantial side-effects observed after COVID-19 vaccination in local population of Kolkata region, West Bengal, India.

Methods: We have prepared the survey questionnaire in order to determine the side effects experienced by the people, who were vaccinated (1^{st} or 2^{nd} or both) against COVID-19. Due to the pandemic situation, it was difficult to conduct the survey by physical interaction with the people living in the Kolkata region of West Bengal. So, the survey was conducted *via* virtual mode through some social networking sites.

Key Findings: The total number of candidates for this study was near to hundreds, from the Kolkata and its nearest areas. This survey will help us to find out the current scenario related to Covid-19 vaccination, and the survey is done in Kolkata region.

Conclusions: The survey will allow the readers to understand the efficacy of COVID-19 vaccines. The respondents experienced mild to severe side effects. However, the efficacies of COVID-19 vaccines were found to be good.

Keywords: Covid-19; Coronaviridae; Covishield; Covaxin; MERS; Remdesivir; SARS

Introduction

The Chinese health officials announced a pneumonia outbreak of unknown origin in Wuhan City, Hubei Province, on December 31, 2019. The National Authorities of China reported a total of 44 cases of pneumonia with an unknown cause to WHO between December 31, 2019, and January 3, 2020. Also, the National Health Commission China notified WHO of the outbreak's connection to exposures in a local seafood market in Wuhan City on January 11 and 12. Chinese authorities detected and recognized the novel coronavirus on January 7, 2020. China released the genetic profile of the Novel Corona Virus with other nations on January 12, 2020, so they could create specialized diagnostic tools. Four nations-China (278 cases), Thailand (2 cases), Japan (1 cases), and the Republic of Korea (1 case)-reported a total of 282 confirmed cases of 2019-nCoV to the World Health Organization on January 20, 2020 [1,2]. This virus is a positive single-stranded RNA virus with an envelope, coronaviruses are members of the Coronaviridae family. They fall under four genera: coronavirus α, β, ɣ and δ. A total of 7 human coronaviruses (HCoV), belonging to the Alpha and Beta coronavirus genera, have been identified so far. The Beta coronavirus genus comprises of HcoVOC43, HcoVHKU1, SARSCoV (severe acute respiratory syndrome coronavirus), MERSCoV (Middle East respiratory syndrome related coronavirus), and the novel SARSCoV2 severe respiratory syndrome 2), the Alphacoronavirus genus includes HCoVNL63 and HcoV229E. In addition to causing colds, the beta coronaviruses HcoVOC43 and HcoVHKU1 and the alpha coronaviruses HcoVNL63 and HcoV229E can also cause significant lower respiratory tract infections, particularly in elderly and young patients. Children's lower respiratory tract infections and laryngotracheitis have both been strongly linked to HCOVNL63 infection and HCOVOC43 infection, respectively. The zoonotic viruses SARS-CoV and MERS-CoV cause severe respiratory illness and frequently result in death. On November 26, the World Health Organization identified the newly found SARSCoV2 lineage B. 1.1. 529, a concerning variety of the Corona virus known as "Omicron," with 32 mutations in the single spike protein [3-8].

Epidemiology

Symptoms

Patients with SARS-CoV-2 infection experience a wide variety of symptoms, from mild to severe ones like fever, cough, and shortness of breath. This symptom has been experienced by 31% of patients. According to certain studies, people who experience acute respiratory distress syndrome may quickly deteriorate and pass away from multiple organ failure. Additionally, it has been documented that 2-10% of Covid-19 patients experience gastrointestinal problems such nausea, vomiting, and abdominal pain [9,10].

Transmission

SARSCoV2 transmission is still not completely understood. In a community that is exposed human-to-human droplet transmission is the primary method of transmission. The fecal-oral pathway is another potential method of viral transmission. According to scientific literature, SARSCoV and MERSCoV can survive in environments that encourage fecal-oral transmission. Wastewater from two Chinese hospitals that treated SARS patients contained the SARSCoV virus [11,12].

Incubation period

It is the period of time between when you were exposed to the outbreak and when your symptoms first appeared. According to the Centers for Disease Control and Prevention (CDC), the new coronavirus currently has an incubation period of two to fourteen days following exposure. According to a recent study, about 97% of people who were exposed to the SARS-CoV-2 virus experience symptoms within 11.5 days of exposure. Five days seems to be the average incubation time. This estimate could change, though, as we continue to learn more about the virus. Many persons with COVID-19 experience mild symptoms at first, which gradually worsen over a period of days [13].

Outbreak and affected countries

The coronavirus (COVID19) pandemic, which began in China, is currently affecting the entire world. The most affected nations as of August 18, 2020, were the United States, Brazil, and India. Data is gathered from the Infectious Disease Vulnerability Index (IDVI), the World Health Organization (WHO), the World Bank, and the Brazilian Geography and Statistics Institute, and the Brazilian Geography and Statistics Institute (IBGE). Based on the indicator's sensitivity, flaws were identified. The countries with the highest populations on the world are China, India, and the countries with the highest risk were the United States, Brazil, and India and the lowest risk group is made up of Germany and New Zealand. SARS-CoV and MERS-CoV, which started as epidemics in China in 2003

and Saudi Arabia in 2012, respectively, and spread rapidly, are two examples of extremely pathogenic human CoVs that have seen in this century. catastrophic morbidity and mortality, spread to many other regions. So far in documented human history, the current COVID-19 outbreak is the third CoV outbreak. The first incidence of pneumonia with an unknown cause was reported to the Chinese National Health Commission on December 31, 2019. Wuhan's first fatal case occurred on January 15, 2020. While this was happening, the pandemic quickly spread to nearby cities, regions, and nations. On January 20, it was reported that a health worker had become infected, raising the possibility of human-to-human transmission. On January 23, Wuhan was reported to be in lockdown with all public transportation suspended. According to the initial clinical study of the illness, which was published on January 24, only 21 of the 41 patients with confirmed cases had contact with the Wuhan fish market, which is thought to be the origin of the animal-borne disease. The epidemic was considered as a global health emergency by WHO on January 30. The disease has already spread throughout China and nearly 50 other nations worldwide as of the time of this news [14-17].

In order to determine whether COVID-19 vaccines are safe and whether receiving one can help protect individuals from getting the disease and passing away from this disease, we performed this survey.

- The majority of mild or moderate symptoms associated with the COVID-19 vaccine's general side-effects can subside on their own after a few days.
- Soreness at the injection site, fever, exhaustion, headache, muscle pain, chills, and diarrhoea are typical adverse effects.

Percentage of vaccination

Globally, at least one dose of the COVID19 vaccine has been administered to 54.8% of the population. 8.12 billion doses were given out globally, and 35.52 million are still given out each day. In low-income nations, just 6.2% of people have received at least one dose. A sizable portion of the population must be immune to the virus in order to put a stop to this pandemic. A vaccination is the most secure approach to accomplish this. In the past, humanity has frequently used vaccines as a method to reduce the mortality toll from infectious diseases. Fewer than a year after the COVID19 pandemic began, numerous research teams stepped up to the plate and created vaccinations that guard against SARSCoV2, the virus that causes COVID19. Making these vaccines accessible to people worldwide is now the task. It will be essential that everyone, not just those in wealthy nations, has the protection they require. The information has been gathered from the global COVID-19 vaccination dataset to monitor this initiative (Figure 1).

Figure 1: Vaccination rate of the total population of the world with Covid 19 vaccine a) total no. of vaccinated population b) percentage no. of vaccinated population.

The total population who has received at least one dose of the COVID-19 vaccination is depicted in the graph above. If the vaccine requires two doses, this might not equal the total number of people who have been immunized. This metric goes up from 1 if a person receives the first dose of a two-dose vaccination. The metric stays the same if they get the second dose (Figure 2).

The distribution of vaccinations among persons who were either fully or partially immunized is depicted on the graph. If a person has only received one dosage of a recommended 2-dose vaccination schedule, they are regarded as partly immunized. If a

Figure 2: Breakdown of vaccinations among total population of world with partly or fully vaccinated.

person has gotten a single dosage of the vaccine or both doses of a two-dose vaccination, they are regarded as completely immunized. Only nations reporting the discontinuance of provided doses after the first and second dose have access to this data.

Present situation of India

The country is the most severely affected in Asia, and it just surpassed Brazil to rank second after the United States in terms of the number of cases. On September 16, 2020, India saw its highest-ever one-day increase with 97,894 instances. Since the start of the pandemic, the increase represents the greatest daily cases in any nation in the globe. Maharashtra was the most severely affected state in the nation, followed by Karnataka, Andhra Pradesh, and Tamil Nadu, which had the fourth-highest number of infections. The state and federal governments were forced to offer relaxations starting on September 1, 2020, as a result of the gradual lifting of lockdown due to a number of region-specific factors, including poverty, labor migration, and economic stagnation. More than a case of lakh has been anticipated per day with unlock 4. 0. The number of cases per day is, however, steadily declining and has been since mid-September. Despite an increase in testing capacity, daily cases jumped from around one lakh to about 60,000 on October 31, 2020, and to 31,179 on November 30, 2020. In some areas of the nation, metro services have restarted after a five-month stoppage. Only asymptomatic people will be permitted to board the trains, with facemasks and social distance protocols being required. Indian citizens are still terrified and reluctant to resume their daily lives today. Although the COVID-19 infection curve in many Indian states has flattened, officials across the country are now worried about the start of a "second wave of infection" because of festival congestion and monsoon season. The Indian government has encouraged its citizens to use preventative measures including social distance and mask wear when attending public events. In addition, a few states, like Maharashtra, Rajasthan, Gujarat, etc., have implemented new travel restrictions and night curfews to combat a second wave [18].

Vaccination of India

The distribution of vaccinations for people who were either fully or partially immunized is depicted on the graph. If a person has received only one dose of a two-dose vaccination regimen, they are regarded partially immunized; however, if a person has received both doses of a two-dose vaccination protocol, they are considered completely immunized (Figure 3 and Figure 4).

Figure 3: Breakdown of vaccinations in India with partly or fully vaccinated.

Figure 4: The total number of COVID-19 vaccination doses administered.

The following graph displays the range of COVID-19 vaccine doses that were given overall (Figure 5). Keep in mind that depending on the dosing regimen, this is frequently counted as one dose and does not necessarily equal the total number of people who received the vaccination (e.g., people receive multiple doses).

Figure 5: Total population of India COVID-19 vaccine a) Total population with one dose administered b) Total population with fully vaccinated against COVID-19.

The percentage of the whole population that has received at least one dose of the COVID-19 vaccination is depicted in figure 5a. If the vaccination requires two doses, this cannot equal the proportion of those who are completely immune. This measure increases by 1 if a person receives the first dose of a 2-dose vaccination. The metric stays the same if they get the second dose. The percentage of the entire population that has been completely resistant to COVID-19 is depicted in figure 5b. This denotes the portion of the population that has gotten every dose recommended by the immunization regimen. This statistic does not change if a person just takes the first dose of a two-dose vaccination. The metric increases by 1 if they receive the second dose [19].

General side-effects related to COVID-19 vaccination

The COVID-19 vaccine can help protect people from contracting the disease. Both adults and children may have some side effects from the vaccine, which are customary indicators that their body is fortifying its defenses. Although they must take a few days off from work to recover from these side effects, which may affect their capacity to perform daily tasks. Hypersensitive reactions are uncommon, and some people don't experience any negative effects. Following any immunization, including the COVID-19 vaccination, serious adverse effects that might result in long-term ill health are extremely improbable. According to several research, adverse reactions usually occur six weeks after taking a dosage of a vaccination. The U.S. Food and Drug Administration (FDA) gathered information on licensed COVID-19 vaccinations for a minimum of two months (eight weeks) prior to the final dosage for this reason. Even though the COVID-19 vaccines are presently in use, the CDC continuously monitors their effectiveness in preventing the disease. The most common side effects of covishield are soreness, redness, and swelling on the arm wherever you receive the shot. You may also experience fatigue, headache, muscle pain, chills, fever, and nausea. Some delicate symptoms include arthralgia, chills, pyrexia, myalgia, pain at the injection site, headache, exhaustion, and nausea. Following immunization, extremely uncommon demyelinating illnesses are reportable, and covaxin has some delicate symptoms. A number of AEFIs, including pain at the injection site, headache, fatigue, fever, body ache, abdominal discomfort, nausea, and vomiting, as well as disorientation, tremor, sweating, colds, and coughs, may also manifest. There have not been any additional major adverse reactions to vaccines recorded. When the second dose is administered after the first shot, some severe adverse effects may develop. Most of the time, discomfort from pain or fever may be a classic indicator that the body is fortifying its defences. If the redness or pain where the shot was administered worsens after twenty-four hours, consult a physician or care provider [20].

Drug therapy related to COVID-19

The range of medical treatments for coronavirus (COVID-19) is expanding and changing quickly, as are all drugs deemed safe and effective by the U.S. Food and Drug Administration (FDA) and medications made available under FDA emergency use authorization (EUA).

Remdesivir (Veklury) (Antiviral) - It was the first medication that the FDA has approved in October 2020 to treat the SARS-CoV-2 infection. Adults and children hospitalized with COVID-19 disease who weigh at least 40 kg and are at least 12 years old are advised to take it. A prodrug with a nucleotide analogue is the broad-spectrum antiviral. A strong headache, pounding in the neck or ears, fast, slow, or pounding heartbeats, difficulty breathing, swelling of the face, fever, chills, or shivering, itching, or a light-headed sensation that feels like passing out are some of the side effects. Nausea is one example of a typical adverse effect.

Molnupiravir (Antiviral) - According to a Merck study published in October 2021, using this medication associate in oral nursing medicine to treat COVID-19 has produced favourable results. People with mild to moderate COVID-19 who were at high risk for severe COVID experienced significantly lower hospitalisation and death rates when taking the antiviral medication molnupiravir compared to placebo.

Paxlovid (Oral antiviral) - The chances of COVID-related hospitalisation and mortality were significantly lower with Paxlovid than with a placebo, according to interim trial data released by Pfizer in a formal promulgation in the month of November 2021. The business intends to ask the government to approve the therapy.

Fluvoxamine (Luvox) (Antidepressant) - The medication fluvoxamine (Luvox), which can be taken orally at home, significantly lowers the probability of hospitalisation in select COVID-19 patients at considerable risk for severe disease, according to a study published in Lancet Global Health in October 2021. The medicine may have side effects similar to nausea, light-headedness, and insomnia.

Dexamethasone (Corticosteroids) - Since the start of the pandemic, several medical professionals, including those in the United States, have been administering corticosteroids to severely ill COVID-19 patients. For individuals who experienced a cytokine storm (a hyperimmune response) in reaction to a viral infection, this makes biological sense. In these situations, the immune system's overreaction is what harms the lungs and other organs and, all too frequently, results in death. Long-term use of corticosteroids administered for conditions other than COVID-19 results or hospitalisation risk were unaffected [21,22].

Material and methods

We prepared the survey questionnaire in order to determine the side effects experienced by the people, who were vaccinated (1^{st} or 2^{nd} or both) against COVID-19. This survey will help us to find out the current scenario related to Covid-19 vaccination, and the survey is done in Kolkata region. The survey questions are as follows (Table 1).

1. Name of the Candidate *	
2. Gender *	Male/Female
3. Age category: *	Less than 20 years/20 - 29 years/30 - 39 years/40 - 49 years/50 - 59 years/60 years or more
4. Place of residence: *	A city A town/A village
5. Are you suffering from any of chronic diseases? *(You can select more than one choice and if you choose other, please specify)	No/Diabetes mellitus/ Hypertension/Cardiovascular diseases/Chronic respiratory diseases/Thyroid disorders/ Other
6. Did you have a severe allergic reaction that required medical intervention? *	Yes/No
7. Have you been vaccinated with COVID-19 vaccination? *	Yes/No
8. Which type of COVID-19 vaccines did you received? * (If you choose other, please specify the name of the vaccine you take)	Covaxin/ Covishield/ None/ Other
9. How many doses have you received so far?	Single dose/Two doses
10. Have you got infected with COVID-19 after vaccination?	Yes/No
11. Have you noticed any symptoms following vaccination?	No symptoms at all/Yes, mild symptoms/Yes, moderate symptoms/ Yes, severe symptoms

12. Did you noticed any of this symptom after getting Vaccinated? * (Please choose the option carefully and you can choose more than one option)	Fever/Pain or swelling at the injection site/Dizzy/Diarrhea/ Nausea/Headache/Tiredness and fatigue/Irritation and allergic skin reactions, or itchy skin Cough/Decreased sleep/ quality Joints pain/Muscle pain (myalgia)/Haziness or lack-of-clarity in your eyesight/ Abdominal pain/Vomiting Bruises on body Bleeding gums/Numbness and tingling in limbs Runny nose/Dry throat/None
13. Please write down if any other symptoms you have experienced: (optional)	
14. How soon did the symptoms appear after taking COVID-19 vaccine?	Up to 4 hours 5 to 8 hours/9 to 12 hours/13 to 16 hours/17 to 20 hours/21 to 24 hours
15. How long did the symptoms last?	Less than one day 1 to 3 days/4 to 7 days/More than 7 days
16. How did you act to relieve the symptoms that appeared after vaccination?	I took rest at home/I took medicines and rested at home/I went to a doctor's clinic, but there was no need for hospitalization/I have been admitted to a hospital/I received the required healthcare services
17. Please write down the name of those medicines which you have taken to get relief from the symptoms:	
18. Please write down those symptoms caused a visit to doctor or hospitalization:	

Table 1: Survey Questionaries for determination of any side effects after post covid-19 vaccination.

Due to the pandemic situation, it was difficult to conduct the survey by physical interaction with the people living in the Kolkata region of West Bengal. So, the survey was conducted via virtual mode through some social networking sites like LinkedIn, Gmail, Outlook, Facebook, Instagram, Twitter, Telegram etc.

Survey report

The total number of candidates for this study was 54, from the Kolkata and its nearest areas.

Gender and age category

Total 54 responses were collected for this survey, where the Percentage of Male candidate is 63% and percentage of Female candidate is 37%. Majority of the responders are Male. Most of the responders lies under the age category of 20-29 years and the percentage is 92.6% and other few responders come under the age categories are less than 20 years is 3.7%, 30-39 years is 1.9% and 50-59 years is 1.9% (Figure 6).

Figure 6: Percentage of Male and Female Responders.

Place of residence

For better understanding this question is used on the survey, it is very helpful to find out from which areas the responders are belongs. Because in many times it is very difficult to find any medical helps in less developed areas than the other developed areas. Majority of the responders belong from City and the percentage is 57.4%, the rest of my responders belong from town and village, the percentages are 24.1% and 18.5% (Figure 7).

Figure 7: Responders with Place of Residence.

Suffering with any Chronic Diseases

This question will help to find out any of the responders suffering from any kind of chronic diseases, because the medication for the chronic dieses may affect the Covid-19 vaccination. Most of the responder's answer is No to this question and the percentage is 94.4%. But few of them suffering from thyroid disease and fatty liver and the percentage is 3.7% and 1.9% (Figure 8).

Figure 8: Responders with any chronic diseases.

Any severe Allergic reaction that needs any medical intervention

This is an important question, because in many of the cases it occurs that due to some medication or any food people get allergies and some time it can be very deadly in nature. So, it is very important to find out that did the person suffering from any allergies before the vaccination then it will be easy to give vaccine without any problems and also the process became very safe. Most of my responders don't have any severe allergic reaction they around 87% but the rest of the people have some severe allergic reactions (Figure 9).

Figure 9: Responders with any allergic reaction.

Vaccinated with Covid-19 vaccination

All the responders were vaccinated.

Types of Covid-19 vaccine received

This question will help to find out the types of vaccines for Covid 19 taken by the responders, in current market many brands are came with Covid 19 vaccines and in them mostly known names are covishield and covaxin, also there many vaccines are available except them. With this Question it is became very easy to identify that which one is mostly taken by the peoples. In this survey most of the people vaccinated with covishield and the percentage is 75.9% and the rest of the people get vaccinated with covaxin the percentage is 24.1% (Figure 10).

Figure 10: Covid-19 Vaccines received by People.

Number of doses have been received

The vaccination for Covid 19 is completed after taking 2 shots of the vaccine. There is a gap between the shots for anyone who has taken the vaccine for Covid 19. In case of covishield the gap between 2 shots is 84 days and for covaxin the gap is 28 days. This question will help us to find out how many people are fully vaccinated and how many are partially vaccinated means taken only one dose of the vaccine. From this survey it has received that most of the responders are fully vaccinated and the percentage is 86.8%, and the percentage for the partially vaccinated patients are 13.2% (Figure 11).

Infected with Covid-19 after vaccination

It can help to identify the number of peoples who get infected even after Covid 19 vaccination. It is cleared from the responses that most of the responders don't infect with Covid 19 after

Figure 11: Responders with Vaccine Dose.

vaccination and the percentage of this population is 94.4%, but in the other hand 5.6% of the survey responders get infected with Covid 19 after also been vaccinated (Figure 12).

Figure 12: Responders with infection of COVID-19 after vaccination.

Notice any Symptoms following Vaccination

It is a very common question and it can specify that after vaccination did anyone get any symptoms. This question is divided into 4 parts No, Mild, Moderate and Severe. With the help of this question, it can easily identify that anyone of responders get any symptoms or not after the vaccination. From the responses it is cleared that majority of the people did not get any type of symptoms after the vaccination and the percentage of them is 46.3%, and the rest getting mild and moderate symptoms and the percentages are 40.7% and 13% (Figure 13).

Figure 13: Symptoms following Vaccination.

Any of the symptoms after getting Vaccinated

It is very important to find out the person who is been vaccinated get any kind of side effects, this question can easily help to find any person who get affected by any symptoms due to the Covid 19 vaccination. Among the collected responses from the survey majority of the people get fever after getting vaccinated and the percentage is 64.8%, then the second major side effect after getting vaccination is Pain or Swelling in the injection site and the percentage is 44.4%, the other major side-effects include Tiredness and fatigue, irritation and allergic skin reaction and the percentages are 29.6% and 27.8%, and 18.5% of the responded did not get any kind of side-effects. Also, the other minor symptoms include joint pain and muscle pain it is shown in 17% of the peoples. And the rest are having some symptoms like Nausea, dry throat, cough, abdominal pain and irritation and allergic skin reaction the percentages are 5.6%, 3.7%, and 1.9% (Figure 14).

Figure 14: Symptoms after getting vaccinated.

How soon did the symptoms appear after taking COVID-19 vaccine?

After taking the vaccine how much time taken by the symptoms to appear is very important and it have to be documented immediately. From the responses it is documented that major of the symptoms appeared within 5 to 8 hours after getting vaccinated and the percentage is 48.9%, and the few of the responders getting the symptoms within 9 to 10 hours and within 4 hours and the percentages are 20% and 17.8%. Minor are getting the symptoms within 21 to 24 hours and 13 to 16 hours and the total percentage is 13.3% (Figure 15).

Figure 15: Symptoms appear after taking Covid-19 vaccine.

How long did the symptoms last?

It is help full to find out that how much time the symptoms are visible means when the symptoms are gone and it can help to define that it disappears without any medication or not. From the responses it is shown that the symptoms disappear within less than one day or within 1 to 3 days and the percentage of this is around 97.8%. And the rest 2.2% having the symptoms gone within 4 to 7 days (Figure 16).

Figure 16: Time duration of the symptoms.

Act to relieve the symptoms that appeared after vaccination

After getting side-effects from the vaccine how anyone react to get relief is also an important part to know. This question will help to find out the they react to the side- effects. From the responses it is proven that majority of the people taking rest at home and the percentage is 52.2% and rest of the rest of the people take medicine and rest at the home the percentage is 47.8% (Figure 17).

Figure 17: Act to relieve the symptoms that appeared after vaccination.

Name of those medicines which you have taken to get relief from the symptoms

This is the most important question of the survey. This will help to find that which are the medicines help them to get relief after getting any side effects from the vaccine. From the study it is shown that most of the persons take Paracetamol (Paracetamol 650, Calpol 650 and crosin) to get relief from the side-effects and the percentage is 78.1% and 16.3% of the responders did not take any medicament and rest at home and the rest of the responders take Antiallergic drug (Montair Lc) and Vitamin (Figure 18).

Figure 18: Medicines to get relief from the symptoms.

Conclusion

Commonly, people are being hesitated to take vaccine due to fear and lack of authentic knowledge. This study shows adverse reaction with common side effects due to administration of first and second dose of vaccine where the symptoms were mild to moderate. Few side-effects were severe. It gives us the opportunity to recognize the efficacy of the above mentioned COVID-19 vaccines. The main purpose of this study is to find out and evaluate the effects of Covid-19 vaccines among a cluster of residence around Kolkata, west Bengal, India and its nearest regions, and the results may help us to understand the side effects related to COVID-19 vaccine and the methodical apposite approaches taken to deal with these symptoms.

Authors Contributions

Tiyas Saha‡, Monosiz Rahaman‡, Aritra Saha, Sejuti Ray Chowdhury, Debasmita Dutta Roy, Aditya Prasanna Mukherjee, Arijit Das - Conceptualization, Survey and Methodology.

Mr. Suraj Kumar Shah, Dr. Bitasta Mandal, Dr. Nandan Sarkar and Dr. Sourav De- Investigation and Writing- Original draft preparation.

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Conflicts of Interest

The authors declare no conflict of interest.

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