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Post Vaccination Symptoms among I Dose Covid-19 Vaccinated Adults in Puducherry

Pushpa B[1], Jasmine J[2]
[1]*PHC Mudaliarpet, Puducherry*
[2]*MTPG & RIHS, Puducherry.*

Abstract: ***The aim was to understand the prevalence of post COVID-19 (COVISHIELD) vaccination symptoms among I dose COVID-19 vaccinated adults in Puducherry through a descriptive study and analyze the association with epidemiologic factors. 100 participants were selected according to the inclusion and exclusion criteria by systematic random sampling technique. A descriptive research design was used for the study.***

Data was collected using symptom questionnaire among the participants at PHC Mudaliarpet, Puducherry between the age group of 19-70 years. Data analysis was done using descriptive statistics and inferential statistics. Out of the 100 samples majority, 36 (36%) of study population were in the age group of above 50 years whereas 57 (57%) were male and 48 (48%) had no co-morbidity.

The overall results of the study shows that 68 (68%) had fatigue, 41 (41%) had fever, 33 (33%) ad pain at the injection site, 26 (26%) had malaise, 9 (9%) had headache, 7 (7%) had nausea and vomiting, 4 (4%) had diarrhoea and 3 (3%) had chills. The demographic variables age have shown statistically significant association with nausea and vomiting among the selected participants with chi-square value of χ^2***=7.941 (d.f=3) at p<0.05 level.***

The study concluded stating that fatigue is the most commonly prevailing post COVID-19 vaccination symptom among I dose COVID-19 vaccinated adults.

Keywords: COVID-19 Vaccination, Side effects, Symptoms

I. INTRODUCTION

COVID-19 vaccinations might produce moderate, short-term adverse effects including a low-grade fever or soreness or redness at the injection site, just like any other vaccine. Most vaccination responses are modest and go away on their own after a few days. Vaccines can have more significant or long-lasting adverse effects, although these are exceedingly rare.

Vaccines are continuously examined for as long as they are in use in order to discover unusual side outcomes and develop strategies to prevent them.

The immunization programme is still going well, with more than three quarters of the adult population completely vaccinated against COVID-19. We're already seeing the vaccine in action: despite a high number of infections, COVID-19 has resulted in fewer individuals being hospitalized or dying than before the vaccine was introduced. However, the vaccine has not halted the epidemic, and people are still becoming extremely ill and dying as a result of the virus, particularly those who are unable or unwilling to get vaccinated.

A recent study by Adam et al. (2021) suggests the most common post-COVID-19-vaccination side effects reported by participants who received the Pfizer-biontech and Oxford-astrazeneca vaccines were fever, myalgia, malaise, fatigue, muscle and joint pain, and headache, with very few having seizures, anosmia, or swollen lip and tongue [4].

In India, more than 1.5 Cr vaccinations have been recorded in a single day after the initial hesitations by the public is fading. Post COVID-19 vaccination symptoms are being investigated by several surveillance systems throughout the world. This research aimed to look for vaccination side effects and symptoms after receiving the first dose of COVID-19 vaccine- COVISHIELD.

The Ministry of Health and Family Welfare, Government of India has also listed down four main symptoms of the post vaccination symptoms which are; mild headaches, pain or swelling at the injection site, mild fever and irritability. This has been descripted as follows through an info graphic image.

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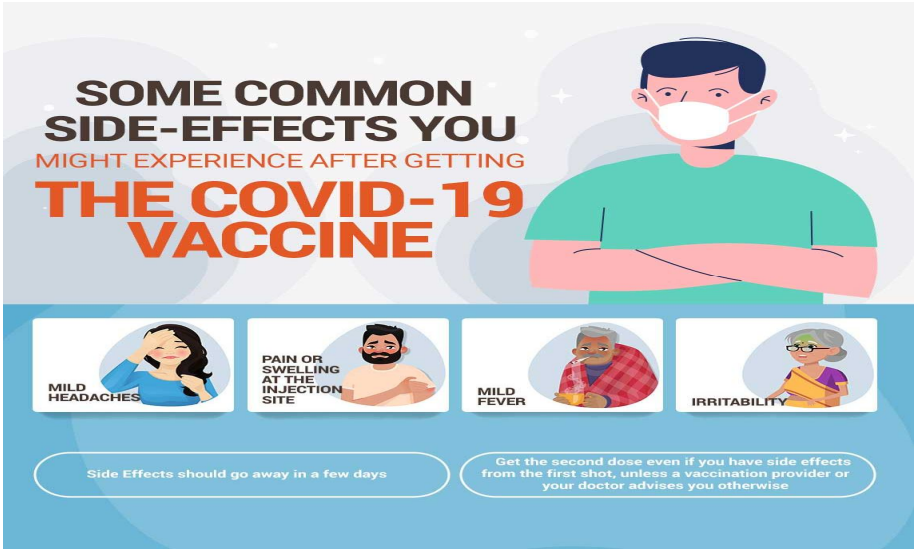


Figure.1. Common side effects of COVID-19 vaccination as given by Ministry of Health and Family Welfare, Government of India. Source: MOHFW (Website)

Furthermore, none of the other existing trials have tried to distinguish early indicators of infection from vaccination side effects. Furthermore, no research attempted to make comparisons with current healthcare testing requirements. This study, in a large community-based urban setting, uses prospective data capture in a novel effort to identify individuals with post COVID-19 I vaccination in the immediate post-vaccination period of 1 month.

II. MATERIALS AND METHODS

Quantitative descriptive research approach was selected for this study. A total number of 100 samples who full-filled the inclusion criteria were selected from out-patient department at PHC Mudaliarpet, Puducherry by using systematic random sampling technique. The study was conducted for the period of 1 month. A questionnaire was designed and validated for data collection of demographic data and symptoms after I dose of COVID-19 vaccination: COVISHIELD. The participants who were included for the study were: participants between the age group of 19 years and 70 years, attending the OPD at PHC Mudaliarpet of Puducherry, Participants who were willing to participate, and Participants who could understand Tamil OR English.

III.RESULTS

The study results showed that **68 (68%)** had **fatigue**, 41 (41%) had fever, 33 (33%) ad pain at the injection site, 26 (26%) had malaise, 9 (9%) had headache, 7 (7%) had nausea and vomiting, 4 (4%) had diarrhoea and 3 (3%) had chills **(Figure.2).**

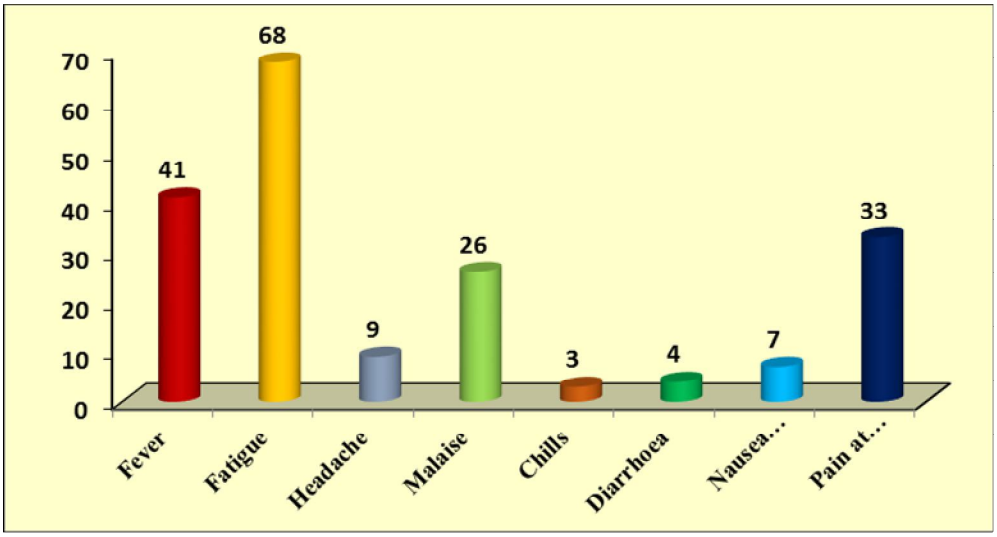


Figure.2. Frequency and percentage distribution of symptoms among adults who received I dose Covid-19 vaccination.

The results also revealed that with regard to age, 36 (36%) were aged >50 years, 27 (27%) were aged between 41 – 50 years, 20 (20%) were aged between 31 – 40 years and 17 (17%) were aged between 21 – 30 years. With regard to gender, 57 (57%) were male and 43 (43%) were female. Considering the area of residence, 100 (100%) were residing in urban area. With respect to co-morbidities, 48 (48%) had no co-morbidity, 19 (19%) had hypertension, 15 (15%) had diabetes mellitus with hypertension and 15 (15%) had diabetes mellitus and 3 (3%) had CAD with diabetes mellitus and hypertension **(Table I)**.

Table I
Frequency and Percentage Distribution of Demographic Variables of Adults who Received I Dose Covid-19 Vaccination.
N = 100

Demographic Variables	Frequency	Percentage
Age in years		
21 – 30	17	17.0
31 – 40	20	20.0
41 – 50	27	27.0
>50	36	36.0
Gender		
Male	57	57.0
Female	43	43.0
Area of residence		
Urban	100	100.0
Rural	-	-
Co-morbidities		
CAD, DM, HTN	3	3.0
DM	15	15.0
DM, HTN	15	15.0
HTN	19	19.0
Nil	48	48.0

The association of post COVID-19 vaccination symptoms among I dose COVID-19 vaccinated adults with their selected demographic variable was assessed and the results revealed that the demographic variables age have shown statistically significant association with nausea and vomiting among the selected participants with chi-square value of χ^2=7.941 (d.f=3) at p<0.05 level (Table II).

Table II
Association of Symptoms with Selected Demographic Variables of Adults who Received I Dose Covid-19 Vaccination
N = 100

Demographic Variables	Chills	Diarrhoea	Nausea and Vomiting	Pain at the injection site
	Chi-Square & p-Value	Chi-Square & p-Value	Chi-Square & p-Value	Chi-Square & p-Value
Age in years 21 – 30 31 – 40 41 – 50 >50	χ^2=2.444 d.f=3 P=0.486 N.S	χ^2=0.355 d.f=3 P=0.949 N.S	χ^2=7.941 d.f=3 P=0.047 S*	χ^2=1.009 d.f=3 P=0.799 N.S
Gender Male Female	χ^2=0.118 d.f=1 P=0.731 N.S	χ^2=0.083 d.f=1 P=0.773 N.S	χ^2=0.614 d.f=1 P=0.433 N.S	χ^2=0.261 d.f=1 P=0.609 N.S
Area of residence Urban Rural	-	-	-	-
Co-morbidities CAD, DM, HTN DM DM, HTN HTN Nil	χ^2=1.723 d.f=4 P=0.787 N.S	χ^2=2.087 d.f=4 P=0.720 N.S	χ^2=2.306 d.f=4 P=0.680 N.S	χ^2=2.258 d.f=4 P=0.688 N.S

*p<0.05, S – Significant, N.S – Not Significant

The table 2 shows that the demographic variable age had shown statistically significant association with nausea and vomiting among adults who received I dose Covid-19 vaccination at $p<0.05$ level and the other demographic variables had not shown any statistically significant association with symptoms like chills, diarrhea, nausea and vomiting and pain at the injection site among adults who received I dose Covid-19 vaccination.

IV. DISCUSSIONS

The study results showed that **68 (68%)** had **fatigue**, 41 (41%) had fever, 33 (33%) ad pain at the injection site, 26 (26%) had malaise, 9 (9%) had headache, 7 (7%) had nausea and vomiting, 4 (4%) had diarrhea and 3 (3%) had chills. Since COVISHIELD is not given outside India, no prominent studies have been recorded for the post vaccinations symptoms of the same. Though there are many a discomforts recorded at the primary level, the most common among them have been evaluated for its prevalence. It was also recorded during the study that most of the patients had hesitated before vaccination due to the screening reports of death because of vaccination that was observed through media. This initial hesitation lead to the fear that developed on their mind and they in turn swayed away from the thought of vaccination for the fear of death.

According to the CDC, the most common side effects of COVID-19 vaccination are:

On the arm of shot	Throughout the body
• Pain • Redness • Swelling	• Tiredness • Headache • Muscle pain • Chills • Fever • Nausea

Though the side effects revealed during the initial surveillance may differ for each type of vaccine, we are still on the early stages of definitively stating vaccine actions across different age groups and geographic borders. Multiples researchers are trying their level best in identifying the major block to put in a stop to this pandemic.

Supporting this study findings there are many newspaper articles in the Times of India, Economic Times, Deccan Chronicle, India Today etc., (Table III) but no specific research study as such. We may look forward to many such studies based on the post COVID-19 vaccinations symptoms and their management, as it is essential and mandatory to fight against the pandemic.

Table III
Supportive Articles for the Study Findings in Different Media Domains

S. No	Newspaper domain	Article name	Published date
1	Times of India	COVID-19 vaccine: Common side-effects of coronavirus vaccine you should not worry about.	May 29, 2021
2	Economic Times	Headache, fatigue & fever: Why are some people hit with side-effects after taking COVID-19 vaccines?	Jun 10, 2021
3	Deccan Chronicle	Fatigue and fever as side-effects among most of the vaccinated.	Jun 25, 2021
4	India Today	Why do some people experience side effects after taking Covid-19 vaccines?	June 12, 2021

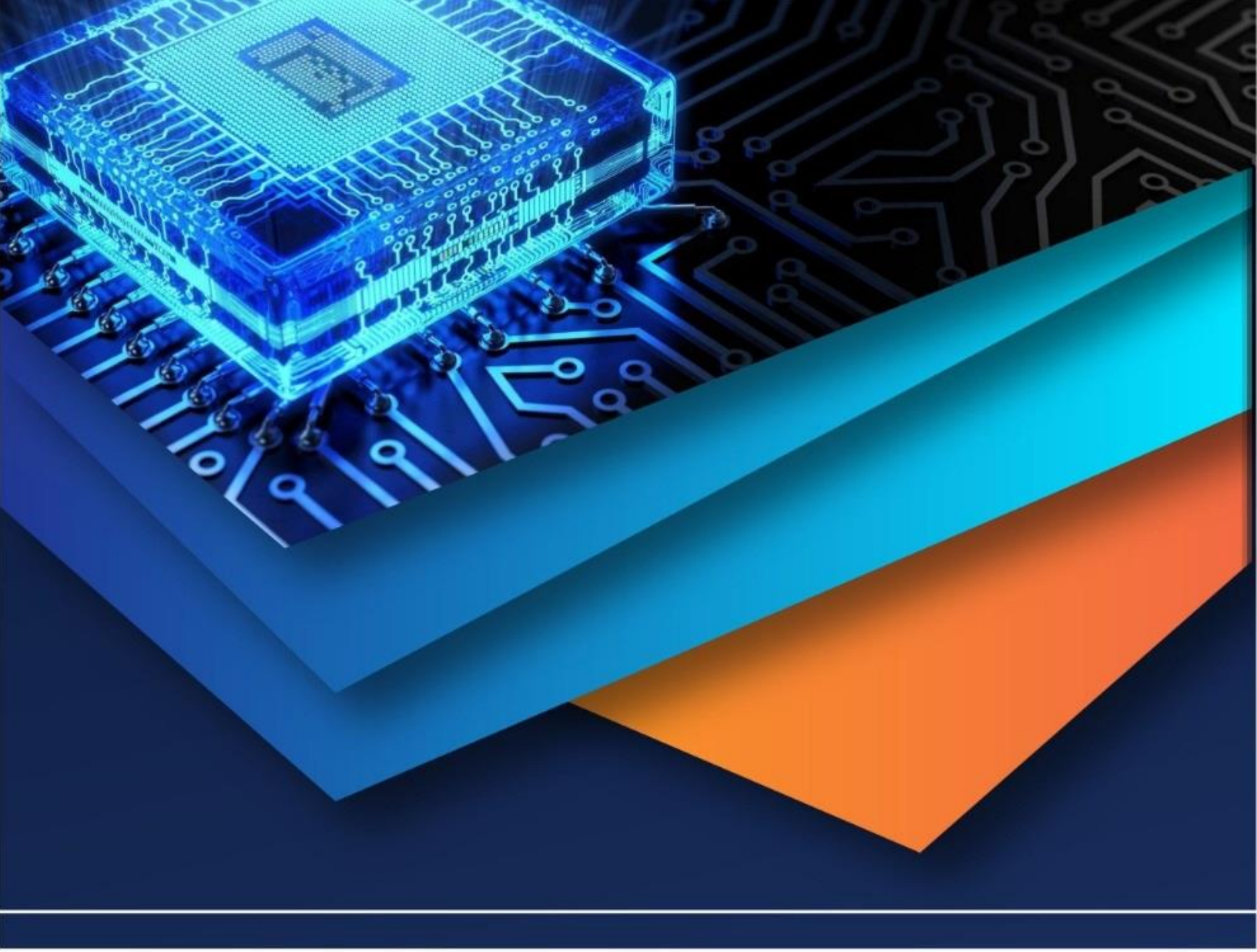
V. CONCLUSION

This study concluded by stating that Fatigue was found to be the most commonly prevalent symptom among the post I dose COVID-19 vaccinated adults persisting even after one month of vaccination. The individual nature of experiences among the post I dose COVID-19 vaccinated adults from this study may help reveal details of implementation successes and failures to see how they were relevant to and reflective of the current implementation models and research.

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