



# Fear of COVID-19 Immunization among the Rural Population of Haryana

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## Abstract

**Background:** Coronavirus Disease 2019 (COVID-19) is a contagious disease caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). During the pandemic time, the only solution to control the spread of the infection was found to be the effective COVID-19 vaccination. But, few groups of rural people are not in the position to intake the vaccination and becoming a hurdle in course to complete immunization coverage. This study focuses to understand the fear and possible solutions.

**Objective:** To determine the fear of COVID-19 immunization among in rural population.

**Methodology:** A cross-sectional study was conducted from August 1<sup>st</sup>, 2021 to October 31<sup>st</sup>, 2021 among a sample of 111 participants using well-structured pre-tested questionnaire *via* Google form to collect the data in a randomly selected group of the population including males and females.

**Results:** The data obtained was analyzed using Microsoft office and the results were obtained which is represented by bar graph, pie chart and plot diagrams.

**Keywords:** SARS-CoV-2; COVID-19; Vaccination

## Introduction

The Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) or COVID-19, the first case reported in China in December 2019. More than 27 million people were infected, 800,000 people died, cases were found in more than 200 countries [1]. World Health Organization (WHO) in 2019 identified ten threats to global health which include vaccine hesitancy, severe acute respiratory syndrome [2]. COVID-19 is the new challenge or threat that we are all facing today which already had a huge effect all over the world; travel restrictions, preventive measures; compulsory face masks or coverings, quarantine implementation to control the spreading of COVID-19 at a massive rate. Preventive measures are not alone adequate to stop COVID-19 from spreading in masses [3,4]. For this, vaccination is one of the most effective prevention measures which helped in eradicating so many infectious diseases like rubella, measles, diphtheria, etc in the past [5-8] likewise for COVID-19. The development of COVID-19 vaccines has shown rapid progress, different vaccines showed good results against COVID-19 [5,9]. Clinical trials demonstrated positive results which indicate that the COVID-19 vaccine is safe and effective. But in terms of acceptance of the vaccine, it is determined by uptake rates of the population [10]. In the context of control of the COVID-19 pandemic, the emergence of fear of COVID-19 immunization can be seen among people [11]. The WHO strategic advisory group of experts on immunization has defined vaccine hesitancy as "it is a delay in acceptance or reluctance of vaccine, it varies across time, place, and vaccine. So, it is complex and context-specific [12]. Several literature reviews already have been done on this issue [13-16]. Health anxiety resulted in high refusal rates of vaccination which has been linked to fear of high threads of death from vaccine-preventable diseases [28]. Several studies found that fear is the response to pandemic situations [13-16]. COVID-19 vaccines are now available in several countries, including India. Therefore, in this situation, it is noteworthy that this is the first study aimed to assess the fear of COVID-19 immunization across a rural section of Haryana state. Similarly, our study also aimed to assess the fear towards COVID-19 vaccination but in a rural setup, for this, we used a well-structured pre-tested questionnaire to collect the data in a randomly selected group of the population including males and females. This questionnaire consists of fifteen questions divided into three parts including participation consent, demographic details, and COVID-19 Fear related

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questions.

### Review of Literature

Various studies have been visualized to give support and embark authenticity to this study. During this review, it was found that in several studies fears can be seen in individual behavior and response to the pandemic situation [13-16]. Survey research conducted on 67 countries found that France is the leader of vaccine hesitancy [17]. Another research found that vaccine fear is associated with a lower perception of risk from the virus, lack of awareness of collective benefits of immunization, concern about the efficacy of vaccination, anxiety about potential side effects [18,19]. Fears about injection in the short term might prevent the long-term benefits of vaccination.

Among, children, adolescents, and adults, blood-injection-injury fears have a subtype fear of which means persistent massive fear of blood, needles, or internal medical procedures, resulting in reluctance or acceptance with anxiety [20-22]. Included assessment of blood-injection-injury fears to measure the degree to which they may be a factor in reluctance about COVID-19 vaccination, fear of injection is more in women and in younger age groups which are currently possible by injection [18,19]. One study found that over 20% of parents and over 60% of children reported needle fear [23].

Recently in a survey, it was observed that 11.8% of those who were reluctant about COVID-19 vaccination and had a dislike of needles and injections and 43.8% had fear of dangerous side effects of the vaccine [24]. In another study conducted in the same year in the US on 9000 older adults, 1.7% had fear of needles because of the COVID-19 vaccine [25]. Several studies results had shown, COVID-19 vaccine does not cause infertility in women’s and False information on side effects of the COVID-19 vaccine were causing fear and decline in vaccination, the prevalence of intentional vaccination delay was 37, common reasons for delaying vaccinations were COVID-19 infection and prevention of exposure to COVID-19 cases and fears were identified as the primary reason for immunization noncompliance for 7% parents and 8% children [23,26,27].

### Material and Methods

**Aim:** To assess the fear associated with COVID-19 immunization among rural groups of Haryana.

**Study area:** Village Bohar, Rohtak Haryana.

**Sample size:** 111 randomly selected individuals.

**Study design:** A cross-sectional study.

**Tool:** A well structured pre-tested questionnaire was used via Google form to collect the data in a randomly selected group of the population including males and females.

**Results:** The collected data is compiled by using Microsoft excel.

**Ethical clearance:** The participants involved in the study were mandated to sign a participatory consent and another ethical clearance was taken from the ethical committee of the selected study area (Annexure 1).

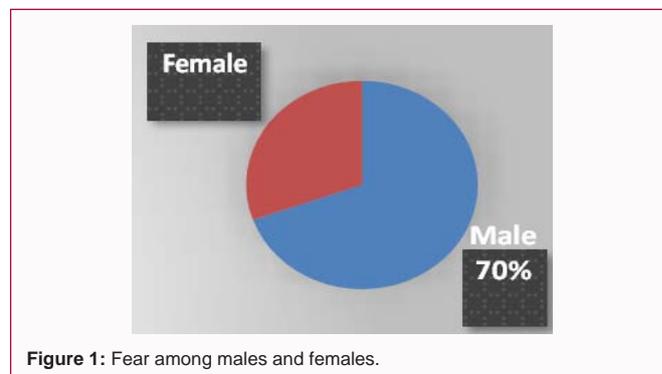
**Exclusion and Inclusion criterion:** The participants unwilling to participate in the study were excluded and those willing were considered in the study.

### Results

After the compilation of all the data, the following theme wise

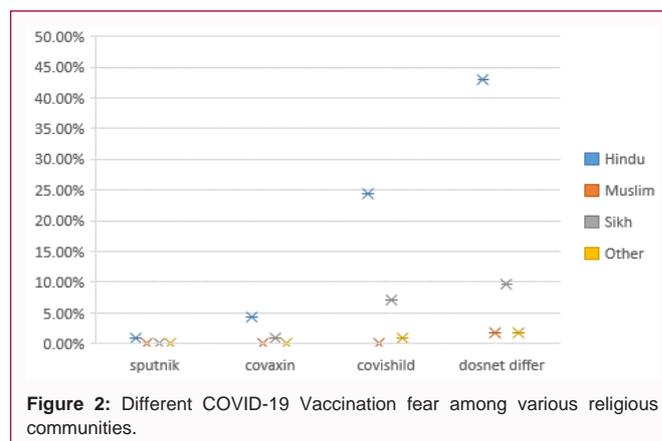
**Table 1:** Fear among males and females.

Gender wise fear?	Percentage
Male	8%
Female	3.50%



**Table 2:** Different COVID-19 Vaccination fear among various religious communities.

	Sputnik	Covaxin	Covishield	Does not differ
Hindu	0.80%	4.30%	24.50%	43%
Muslim	0%	0%	0%	1.75%
Sikh	0%	0.80%	7.01%	9.70%
Others	0%	0%	0.80%	1.75%



results were obtained:

#### COVID-19 vaccination fears among males and females

From the obtained data it was interpreted that out of a total of 111 participant’s including males and females of 12 to 84 age group 70% of males and 30% females have fear of COVID-19 immunization (Table 1 and Figure 1).

#### Different COVID-19 vaccination fear among various religious communities

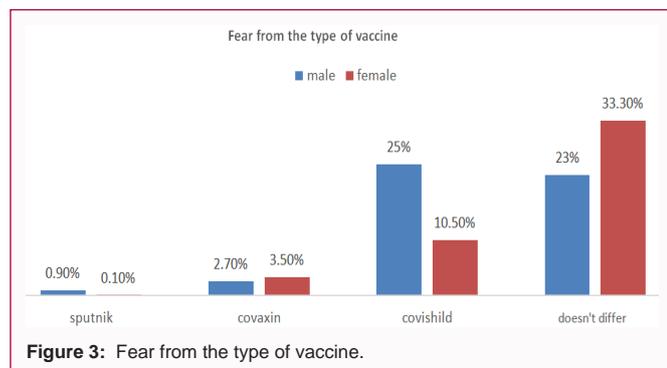
With the obtained result’s it was found that 43% Hindus, 1.75% Muslim, 9.70% Sikh, 1.75% another religion’s reported no specific vaccine behind the fear. In comparison to other religion’s Hindus have more fear, 0.80% have fear for Sputnik, 4.30% for Covaxin, 24.50% for Covishield (Table 2 and Figure 2).

#### Fear from type of vaccine

The 33.30% females and 23% males have nonspecific vaccine behind the fear of immunization. A 25% males and 10.50% females

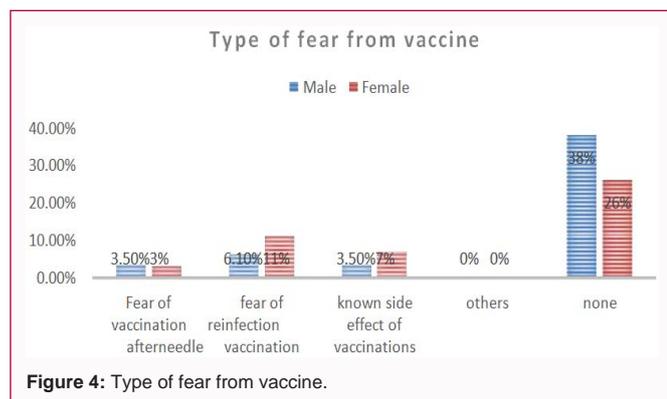
**Table 3:** Fear from a type of vaccine.

	Sputnik	Covaxin	Covishield	Does not differ
Male	0.90%	2.70%	25%	23%
Female	0.10%	3.50%	10.50%	33.30%



**Table 4:** Reason of fear among males and female.

Reason of fear among males and female	Male	Female
Fear of vaccination needle	3.50%	3%
Fear of reinfection after vaccination	6.10%	11%
A known side effect of vaccinations	3.50%	7%
Others	0%	0%
None	38%	26%



have fear for Covishield vaccine, 2.7% males and 3.50% females have fear for Covaxin, 0.90% males and 0.10% of females have fear for the Sputnik vaccine (Table 3 and Figure 3).

**Type of fear from vaccine**

The 38% males and 26% females show there is no specific reason behind the fear of vaccination. 11% of female samples and 6.10% of male samples have fear of reinfection after vaccination. 7% of females and 3% of males have fear of known side effects. Fear of reinfection is almost the same in males and females that is approximately 3% (Table 4 and Figure 4).

**Discussion**

World Health Organization (WHO) in 2019 identified COVID-19 as a pandemic. In the context of control of the COVID-19 pandemic, the emergence of fear of COVID-19 immunization can be seen among people [1]. The research found that vaccine fear is associated with a lower perception of risk from the virus, lack of awareness of collective benefits of immunization, concern about the efficacy of vaccination, anxiety about potential side effects [18,19]. Similar studies found that

fear of injection is more in women and younger age groups, 43.8% had fear of dangerous side effects of the vaccine [18,19,23,24]. Several studies results had shown the prevalence of intentional vaccination delay was 37%, common reasons for delaying vaccinations were COVID-19 infection and prevention of exposure to COVID-19 cases and fears were identified as the primary reason for immunization non compliance for 7% of parents and 8% children [23,27].

Apart from these studies, the present study aimed to assess the associated fear from COVID-19 immunization among the population of the rural section of Haryana. For this, a well-structured pre-tested questionnaire was used via Google form to collect the data in a randomly selected group of the population including males and females after taking their consent and the ethical clearance from the governing body and data was collected. After the collection of all the data, it was compiled and results were obtained. These results demonstrate that males have more fear from vaccination than females, people belong to the Hindu community have more fear, there is no specific vaccine for fear but, if any vaccine is for the fear then the fear includes the chance of reinfection and the potent side effects of the vaccine.

**Key Recommendations**

- It is recommended that COVID-19 vaccination should find a room in the National Immunization Programs.
- Government should formulate a policy for mandatory vaccination along with some “show and do” techniques as propaganda to overcome the fear for vaccination among people.
- Government should follow the psychological aspects to reach out to the mind so if the community to overcome the fear.
- A panel of psychologists should sit together and formulate policies overcome the fear.
- Government should work on awareness programs and campaigns to address these prominent fears.
- To address these fears, regulators, policymakers, educators, the Ministry of Health, and media professionals should cooperate, and only data that has been thoroughly reviewed should be made accessible to the people.

**Conclusion**

In the present study, we conclude that fear of COVID-19 vaccines is widespread among rural Haryana. Among different genders, males showed more fear as compared to females, as they believe that the chance of reinfection is more, as well as there, are marked side effects of the vaccination. In terms of the religion, Hindu group showed a maximum level of fear which needs to be addressed in forthcoming studies. While, considering the association of fears among genders due to the type of COVID-19 vaccine, the majority of the participants do not show any specific vaccine of fear but on the second lead Covishield was a vaccine of fear which may be because maximum immunization in India belongs to Covishield. While considering the type of fear from the vaccine majority has no specific fear but some possess the fear which belongs to the fear of getting reinfection and the side effects of the vaccine.

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