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Original Research Article

Perceived Risks and Perceptions of Covid–19 Vaccination in Patients with Autoimmune Skin Diseases Attending a Tertiary Care Centre in South India: A Questionnaire Based Study

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Abstract

Background: COVID vaccines against the SARS-CoV2 infection helped in reducing the devastating effects of the COVID pandemic. Many studies have portrayed the efficacy and safety of vaccines, there are people who are hesitant to get vaccines due to the fear of side effects and the fear is especially high in patients with autoimmune disorders on systemic immunosuppressant possibly due to lack of awareness and proper counselling.

Material and Methods: This is a cross sectional study done in the Department of Dermatology, Tertiary care centre in India. The study participant who fulfilled the inclusion and the exclusion criteria were included in this study. COVID vaccination details were obtained from 50 patients with autoimmune skin disorders attending the skin OPD.

Results: Age of the patient ranged from 18 – 70 years in which 45-60 years of the age group were predominant 18(36%)]. The most common autoimmune disease among the study participants was Psoriasis vulgaris 24(48%). Patients taking immunosuppressant were about 20(40%) study participants. About 72% were vaccinated for COVID-19. The most common reason for getting vaccinated is due to its Free of cost (91.6%) followed by confident on the vaccine protection (41.7%). Among those who are not vaccinated, most common reason was found to be ignorance regarding vaccine (64.3%) followed by personal superstitious belief (57.1%).

Conclusion: Our study concluded that 72% of study population got COVID 19 vaccination and the common reason is due to its free of cost in our country followed by confidence in its efficacy. The rest hesitated due to their personal superstitious beliefs and their ignorance. Overall, during the study period, no major adverse effects related to the vaccine were noted in our study participants.

Keywords: COVID Vaccination, Autoimmune skin diseases, Perceived risks and perceptions, Fear for COVID vaccine.

Introduction

Autoimmune diseases occurs when our body's immune system finds its own healthy tissue as a foreign antigen and causes cell injury, inflammation and the functional disturbance [1],[2].There are around 80 type of autoimmune diseases. It can affect one or more organs and the most common areas of autoimmune attack are the connective tissues, joints, muscles, skin, blood cells and endocrine system like thyroid. It tends to run in families [2].

In last two years severe acute respiratory syndrome corona virus infection (SARS-CoV2) was a great challenge for the people all over the world. By the September 2021, the infected people all over the world was for 224 million and the death account for 4.6 million [3]. It was found that the immune dysregulation ,immunosuppressive drugs and presence of multiple comorbidities make the patients with autoimmune diseases as the high risk population for the SARS COV infection [4],[5].COVID vaccination reduced the requirement of hospital admission, need for oxygen and mortality related to it even though the protection against the infection was found to be limited [6].

In India, Oxford Astra Zeneca ChAdOx1 nCov -19 (Covi shield - recombinant vaccine) and the indigenous BBV 152(Covaxin - an inactivated vaccine) are most commonly used. Later, Sputnik vaccine was also available [7]. The vaccination program was started on January 16,2021 in India according to both national and the international guidelines [7]. In the initial trials they didn't include the autoimmune disease patients.

There was a hesitancy seen among the patients with autoimmune diseases because of fear of adverse reaction due to the vaccine and lack of long term research [8]. There is a paucity of literature on the COVID-19 vaccine and the autoimmune diseases. Based on the expert opinion the international COVID-19 vaccines guidelines for the autoimmune diseases was framed and they were vaccinated.

The main aim of this study is to find out the percentage of the persons of the autoimmune disease vaccinated and to evaluate the reasons for their acceptance and rejection of vaccine.

Methodology

A cross sectional study was conducted in the Department of Dermatology, Venereology and Leprology, Tertiary care centre, in South India. The study was approved by Institutional ethics committee and done over a period of three months from July 2022 to September 2022. All the patients with autoimmune skin diseases were included in the study after informed written consent. All the study participants were evaluated by thorough clinical history regarding autoimmune skin diseases and COVID vaccination status. Following data were documented in a semi-structured questionnaire

1. Socio-demographic details
2. Details of autoimmune skin diseases and their nature of treatment
3. COVID vaccine details, type, number of doses and withdrawal of immunosuppressant before and after vaccination

Statistical Analysis

The data was entered in MS Excel. Statistical analysis was done in SPSS v26.Continuous data were expressed in terms of Mean± Standard deviation and Categorical variables were expressed in terms of numbers (percentages). P value of

<0.005 is considered to be statistically significant.

Results

Age of the patient ranged from 18 – 70 years in which 45-60 years of the age group were predominant [18(36%)] followed by 31-45 years of age 14(28%).The most common autoimmune disease among the study participants was Psoriasis vulgaris 24(48%) followed by others 14(28%).Bullous pemphigoid, Lichen planus and Pemphigus vulgaris each contribute 4(8%) in our study. Patients taking immunosuppressant were about 20 (40%) study participants out of which 7(35%) and 8(40%) stopped immunosuppressants before and after COVID vaccination 15 days and 1 month respectively. About 72% were vaccinated for COVID-19. 28 had covishield vaccine whereas 8 had covaxin. 64% had first dose of covishield and 63% had first dose of covaxin. 10 (26%) and 3 (37%) completed their second dose of covishield and covaxin respectively. The most common reason for getting vaccinated is due to its Free of cost 91.6%, 41.7% were confident on the vaccine protection,36.1% of the study participants got vaccinated because they don't want to get infected. Among those who are not vaccinated, most common reason was found to be ignorance regarding vaccine in 64.3%, personal superstitious belief in 57.1% and 50% did not get vaccinated because of its side effects.

Table 1: Sociodemographic Profile

Sl. No.	Characteristics	n (%)
1	**Age**	
	<30 years	10 (20)
	31-45 years	14 (28)
	45-60 years	18 (36)
	>60 years	8 (16)
2.	**Gender**	
	Male	26 (52)
	Female	24 (48)
3.	**Autoimmune skin diseases**	
	Psoriasis vulgaris	24 (48)
	Bullous pemphigoid	4 (8)
	Lichen planus	4 (8)
	Pemphigus vulgaris	4 (8)
	Others	14 (28)
4.	**Systemic immunosuppressant**	
	Yes	20 (40)
	No	30 (60)
5.	**Stoppage of immunosuppressant before and after vaccination**	
	15 days	7 (35)
	1 month	8 (40)

Among the study participants the majority of the study participants were in the 45-60 years of the age group 18(36%) followed by 31-45 years of age 14(28%).Males were more in our study 26(52%). The most common autoimmune disease was the Psoriasis vulgaris 24(48%) followed by others 14(28%). Bullous pemphigoid, Lichen planus and Pemphigus vulgaris each contribute 4(8%) in our study. 20(40%) of the study participants were on immunosuppressant out of which 7(35%) and 8(40%) stopped immunosuppressants

before and after 15 days and 1 month respectively.

Table 2: Type and Dose of Vaccine

Sl. No.	Characteristics	n (%)
1.	**Type of Vaccine**	
	Covishield	28 (78%)
	Covaxin	8 (22%)
2.	**Covishield**	
	Ist dose	18 (64%)
	IInd dose (completed)	10 (26%)
3.	**Covaxin**	
	Ist dose	5 (63%)
	IInd dose (completed)	3 (37%)

Among the study participants 28 had covishield vaccine whereas 8 had covaxin. 64% of study participants had their first dose of covishield and 63% of the study participants had first dose of covaxin. 10 (26%) and 3 (37%) completed the covishield and covaxin schedule respectively.

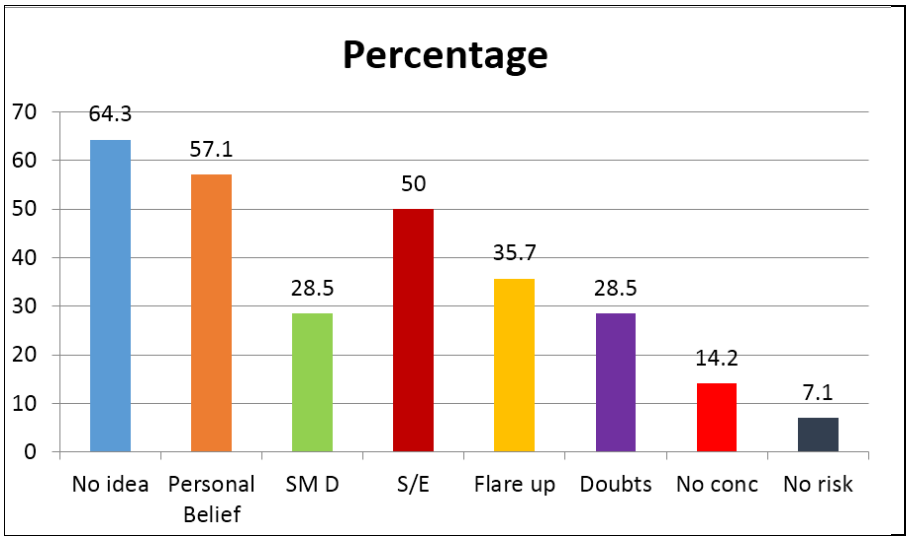

Figure 1: Reasons for not Getting Covid Vaccination

Datas are not mutually exclusive.

SM D – Social Media Discouragement, S/E – fear about the side effects, No conc – not really concerned about being infected with COVID, No risk – Not at a great risk of infection.

Among those who are not vaccinated, most common reason was found to be No idea regarding vaccine in 64.3%, personal belief in 57.1%. 50% did not get vaccinated because of its side effects.

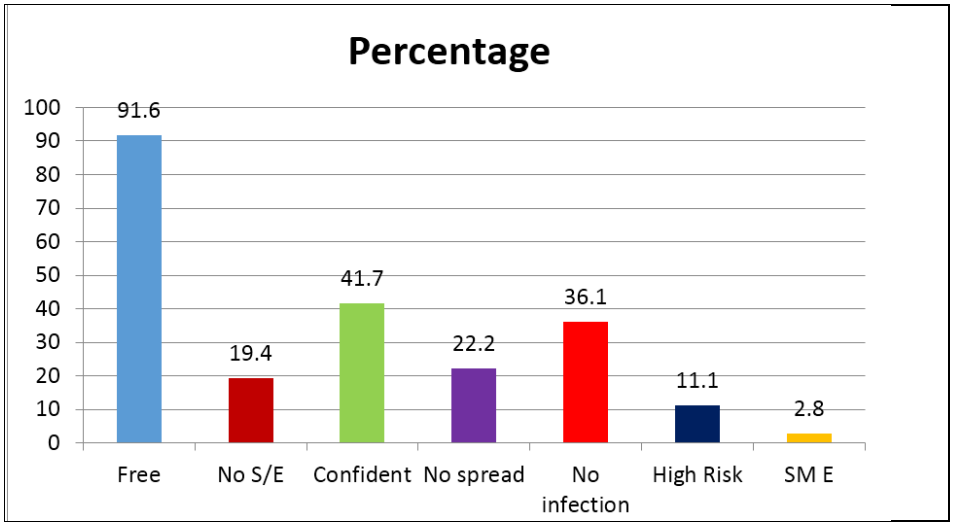

Figure 2: Reasons for Getting Covid Vaccination

Datas are not mutually exclusive.

Free – Free of cost, No S/E – Not concerned about the side effects, Confident – Confident in vaccine efficacy, No spread – Don't want to spread infection to others, No infection - Not want to get infected, High risk – At high risk of acquiring infection, SM E – Social media encouragement.

The most common reason for getting vaccinated is the Free of cost 91.6%. 41.7% were confident on the vaccine protection. 36.1% of the study participants got vaccinated because they don't want to get infected.

Discussion:

Majority of the study participants were in the age category of 45-60 18(36%). Similarly in the Mohanasundaram et al [9] most of the study participants were in 47-60 years of age. In our study, Male preponderance was observed to be 52% whereas in the study done by mohanasundaram et al. female preponderance of 79.16% seen. Most of the study participants had Psoriasis vulgaris 48% followed by Bullous pemphigoid 4% whereas in the Mohanasundaram et al Rheumatoid arthritis was the most common 70.74% followed by SLE 238(11.37%). In our study, the vaccinated study participants were 36(72%) whereas in the mohasundaram et al study 61.81% were vaccinated which is less than ours which could be explained by the fact that it was done earlier than ours. In our study the first dose, coverage was more compared to the second dose. First dose completion was noted in 35.27% of the study participants whereas second dose vaccine completion was noted in 64.73% [9] Most of the study participants had covishield and only few had covaxin. This was similar to mohansundaram et al study where 77.6% vaccinated with covishield whereas 21.57% had covaxin. Vaccine hesitancy was noted in the 14 (28%) of our study participants because of ignorance regarding vaccine safety and efficacy in 64.3% and due to personal beliefs in 57.1% of our study participants. Whereas in the study done in multicentre, the reason was fear of the side effects 52.69% followed by fear of worsening of their disease condition 24.40% [9].

Felton R et al.[10] stated from an international study where he recruited 1561 study participants,38.9% of the study participants were found to have SLE and 54.2% of the study participants were willing for vaccination, 13.6% of the study participants were unwilling. The remaining 32.2% were uncertain. Machado et al.[11] did a study in 30 countries, the mean age

of the study participants was 60.5 years and female preponderance was seen 68%.Majority of the study participants 78% had messenger RNA based COVID vaccine whereas oxford astra zenca vaccine was given for 17% of the study participants.

In our study the vaccine hesitancy was noted in 14(28%) of the study participants. Whereas in the study done by Gaur P et al [12] among 280 patients the vaccine hesitancy was noted in 46% of the study participants. Frangaulis et al [13] reported hesitancy in 21.39% of the study participants where the cause was fear of side effects and regarding the flare up of the disease.

It was found that the COVID 19 vaccination was safe for patients with idiopathic inflammatory myopathies (IIMs) and systemic autoimmune and inflammatory disorders (SAIDS) according to the study conducted in the international online multicentre survey through e-survey [14]. Majority of the study participants reported minor vaccine adverse effects which could be easily managed. American College of Rheumatology has reported that COVID-19 vaccine will save from the severe COVID infections and the benefit outweighs the adverse effects following vaccination [15].

Conclusion

Our study concludes that 72% of the study participants were vaccinated and the rest hesitated. We have seen a demographic profile of the autoimmune patients attending the tertiary care centre and their vaccine status. The major reason for hesitancy was due to their personal superstitious beliefs and their ignorance. The major reason for accepting the vaccine in our study was its free of cost, followed by confidence in its efficacy. Overall, during the study period, no major adverse effects related to the vaccine were noted in our study participants. Many other studies also concluded that autoimmune disease patients can get vaccinated and benefits were more than risk.

Limitations

Our study has a small sample size. The study design is cross sectional so we do not have any data related to the vaccine reaction and the side effects of the study participants which occur in the later period .We didn't compare the study participants with the normal healthy study participants to find whether the adverse reaction and the efficacy was same or not for both the population. Severity of the adverse effects and requirement of hospitalization was not accessed.

Recommendations

Long term follow up studies have to be done to elicit the long term effect of the vaccine in terms of efficacy, adverse reactions and alleviation of the symptoms.

Statements and Declarations:

Competing Interests and Funding: NIL

Authors Contribution:

All authors in our study contributed to the data collection of the patients

Acknowledgement: NIL

Data Availability Statement: The authors verify that the data is accurate and data can be made available upon request with IRB and institution approval.

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