

Assessment of Fear of COVID-19 in Patients Attending the Dermatology Outpatient Department: A Cross-sectional Study

RENU RATTAN¹, GHANSHAM KUMAR VERMA², MEENA CHAUHAN³, AJEET KUMAR NEGI⁴



ABSTRACT

Introduction: The entire world has been affected by Coronavirus Disease-2019 (COVID-19) and experts all over the world are working hard to combat this global pandemic. There is a panic among people with resultant psychosocial consequences.

Aim: To evaluate the fear factor of COVID-19 using Fear of COVID-19 Scale (FCV-19S) among two groups of patients, one with dermatological diseases managed with immunomodulators and second with dermatological diseases not requiring immunosuppression and also to counsel both the groups regarding the course of their disease and tailoring their visits to the hospital accordingly.

Materials and Methods: This cross-sectional study was conducted from 16th January to 30th April 2021 in the Outpatient Department (OPD) of Dermatology of a tertiary care centre, Indira Gandhi Medical College, Shimla, Himachal Pradesh, India. Consecutive 52 patients meeting the inclusion criteria, with dermatological diseases requiring long-term immunosuppressive therapy and

49 patients with dermatological diseases or cosmetic concerns not requiring immunosuppressive treatment were enrolled for the study. The obtained data was analysed using Epi Info software version 7.2.4.0.

Results: A total number of 101 patients were enrolled in the study with a male to female ratio of 1.7:1. Mean age of patients was 41 years (range 18-71 years). Among them, 52 (51.49%) had chronic diseases with relapsing and remitting course requiring immunomodulator drugs and 49 (48.51%) had either cosmetic concerns or diseases not requiring immunomodulation. Seventeen (16.83%) of the total patients had other co-morbidities like diabetes mellitus, hypertension, chronic kidney disease or cardiac diseases. Out of all the study participants, 3 (2.9%) had severe fear, 16 (15.8%) had moderate fear, 36 (35.6%) had mild fear and 46 (45.5%) had no fear of COVID-19.

Conclusion: During this pandemic time, patients need to be counselled regarding the course and management of their diseases and stress factor should also be addressed.

Keywords: Chronic, Coronavirus disease-2019, Cosmetic, Immunomodulator, Pandemic

INTRODUCTION

Coronavirus disease-2019 (COVID-19) is a contagious disease caused by Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2). The first case was identified in Wuhan, China, in December 2019 [1]. Since then, it has spread worldwide, leading to an ongoing pandemic. The World Health Organisation declared the outbreak a public health emergency of international concern in January 2020 and a pandemic in March 2020 [2].

The COVID-19, even after two years of its emergence continues to spread on a global scale. As of 14th December 2020, in India, more than nine million cases and more than 143,000 deaths had been reported globally since the start of the pandemic [3]. After one year, as of 15th December 2021, the number of confirmed cases of COVID-19 increased to more than 34 million and the number of deaths increased by more than three times as compared to the data from previous year [4]. As in other pandemics, fear and anxiety have been the major repercussions in COVID-19 pandemic also. Ever since its emergence, COVID-19 has created a fear among the general population. Researchers agree that COVID-19 is an endemic and one will have to live with constant precautions [5].

In such a situation fear may become more pronounced. This fear of COVID-19 pandemic can adversely affect disease management [6]. Hence, fear of COVID-19 should be assessed and addressed appropriately. For assessment of the fear COVID-19, the Fear of COVID-19 Scale (FCV-19S) has been developed by the researchers [7]. The FCV-19S is associated with anxiety, depression and fear of vulnerability to infection [7].

Autoimmune diseases account for a significant number of dermatology patients. These patients need to be managed with

immunosuppressive drugs and often require a long-term therapy. Administration of immunosuppressive drugs requires regular follow-up and titration of the dose according to the severity of the disease [8]. Unchecked intake of immunomodulators may lead to development of side effects whereas their sudden withdrawal may result in acute exacerbation of the disease [9,10]. In the present era of spreading of COVID-19 infection, there is a fear of vulnerability to infection prevailing among the patients. Moreover, stress is a precipitating factor in a number of dermatological diseases [11].

Due to fear of acquiring infection, a number of patients do not come to the hospital for regular follow-up. They either continue with the dose prescribed to them during last visit or leave the medications abruptly. On the other hand, a number of patients with minor diseases or cosmetic issues regularly keep on coming to the OPD. These patients themselves are at risk of acquiring the infection as well as can be a potential source of infection to other patients and healthcare providers. Such patients can visit the hospital at longer intervals [11]. Therefore, streamlining of healthcare facilities and empowerment of patients with knowledge regarding the nature of their disease and rationalisation of hospital visits is required. To the best of our knowledge, no study addressing these issues in dermatology patients has been done till date.

Keeping in view the above circumstances, the present study was designed to evaluate the fear factor of COVID-19 among dermatology patients and to counsel and educate the patients regarding the course of their disease and intervals of visit to the hospital for follow-up.

MATERIALS AND METHODS

This cross-sectional study was conducted in the OPD of Dermatology at Indira Gandhi Medical College, Shimla, Himachal Pradesh, India,

from 16th January to 30th April 2021. The study was approved by Institute Ethics Committee and was conducted as per protocol (Registration no. ECR/533/INST/HP/2014/RR-20). Informed written consent/assent was taken from all the participants.

Inclusion criteria: All patients with acute or chronic dermatological diseases, above 12 of age, attending the OPD of dermatology and willing to participate in the study were included.

Exclusion criteria: Patients aged below 12 years and who were not willing to give consent for the study were excluded.

All the patients who presented in the OPD within the study period, meeting the inclusion criteria were enrolled. The study participants were divided in to two groups.

Group 1: Consecutive 52 patients meeting the inclusion criteria, with dermatological diseases that require long-term immunosuppressive therapy and regular follow-up were enrolled.

Group 2: Consecutive 49 patients with dermatological diseases or cosmetic concerns that did not require immunosuppressive treatment were enrolled.

Study Procedure

Detailed evaluation of every patient including history and clinical examination was done. Age, sex, marital status, educational qualification, background (rural or urban), history of smoking and alcohol consumption and presence of any co-morbidities (hypertension, diabetes mellitus, chronic renal disease or cardiac issues) of all the participants were recorded. The FCV-19S was used to assess the status of fear among patients. All the participants were given a predesigned and prevalidated FCV-19 scale questionnaire to answer [Table/Fig-1] [7].

Questions	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I am most afraid of coronavirus-19.					
It makes me uncomfortable to think about coronavirus-19.					
My hands become clammy when I think about coronavirus-19.					
I am afraid of losing my life because of coronavirus-19.					
When watching news and stories about coronavirus-19 on social media, I become nervous or anxious.					
I cannot sleep because i am worrying about getting coronavirus-19.					
My heart races or palpitates when I think about getting coronavirus-19.					

[Table/Fig-1]: Fear of COVID-19 (FCV-19) scale questionnaire.

There were total seven questions in the questionnaire. The participants indicated their level of agreement with the statements using a five item Likert-type scale. Answers included “strongly disagree,” “disagree,” “neither agree nor disagree,” “agree,” and “strongly agree”. The minimum score possible for each question was 1, and the maximum was 5. A total score was calculated by adding up each item score (ranging from 7-35). Fear was directly proportional to the score, i.e., higher score indicated greater fear of COVID-19.

The FCV-19 score for all the participants in both the groups were calculated and evaluated. Score of fear factor between 1-14 was

labeled as no fear, 15-21 as mild, 22-28 as moderate and 29-35 as severe fear. Considering the small sample size of study, according to FCV-19 score, participants were divided into two groups.

- No/Mild fear-patients with FCV-19 score between 1-21
- Moderate-severe fear-patients with score between 22-35

All the patients were counselled about the nature of their disease and importance of frequency of visits to the hospital for follow-up. Patients on immunosuppressive drugs with FCV-19 score of 21 or more (indicating moderate to severe fear of acquiring COVID 19 infection and thereby not following regular follow-up) were counselled regarding the gravity of regular follow-up. Similarly, patients with cosmetic concerns with FCV-19 score less than 21 (suggesting no or mild fear) were explained regarding long-term requirement of treatment that can be managed with less frequent visits to the hospital.

STATISTICAL ANALYSIS

Data was collected and entered in Microsoft excel spread sheet, cleaned for errors and analysed using Epi Info software version 7.2.4.0. Descriptive statistics were used to summarise the clinical and demographic data. Frequencies and their percentages were used to describe categorical variables. Comparison of qualitative variables with outcomes was done using Pearson's Chi-square test. A two-sided p-value of <0.05 was considered as statistically significant. As the study sample size was small, values of all variables, as well as FCV-19 scores were categorised into binomial form.

RESULTS

A total number of 101 patients were recruited in the study. Mean age of patients was 39.34±13.25 in group 1 and 36.48±16.71 in group 2. In group 1, there were 33 (63.46%) males and 19 (36.54%) females, whereas, in group 2 there were 31 (63.27%) males and 18 (36.73%) females. Mean FCV score in group 1 participants was 16.03 and in group 2, it was observed to be 15.7. Clinicoepidemiological profile of study participants in both the groups is described in [Table/Fig-2].

Variables		Group 1	Group 2	p-value
		No. of patients- 52	No. of patients- 49	
Sex	Males	33 (63.46%)	31 (63.27%)	0.983
	Females	19 (36.54%)	18 (36.73%)	
Age (years)	12-40 years	30 (57.69%)	33 (67.35%)	0.316
	>40 years	22 (42.31%)	16 (32.65%)	
	Mean age	39.34±13.25	36.48±16.71	
Education	Higher than secondary school	34 (65.38%)	37 (75.51%)	0.846
	Up to secondary school	15 (28.85%)	15 (30.61%)	
Marital status	Married	38 (73.08%)	28 (57.14%)	0.092
	Unmarried	14 (26.92%)	21 (42.86%)	
Area	Urban	20 (38.46%)	18 (36.73%)	0.857
	Rural	32 (61.54%)	31 (63.27%)	
Alcohol	Consumers	15 (28.85%)	15 (30.61%)	0.846
	Non consumers	37 (71.15%)	34 (69.39%)	
Smoking	Smokers	15 (28.85%)	13 (26.53%)	0.795
	Non smokers	37 (71.15%)	36 (73.47%)	
Co-morbidities	Present	12 (23.08%)	5 (10.20%)	0.083
	Absent	40 (76.92%)	44 (89.80%)	

[Table/Fig-2]: Clinicoepidemiological profile of study participants in both the groups. Total participants 101

Keeping in view the small sample size, values of all variables as well as FCV-19 scores were categorised into binomial form for descriptive statistical evaluation [Table/Fig-3]. On analysis of data obtained from both the groups, it was observed that male patients had more COVID-19 fear as compared to females. No or mild fear was observed in 54 (84.38 %) of male patients whereas moderate to severe fear was found in only 10 (15.63%) of the males. On the other hand, 28 (75.68%) of female patients reported mild fear and 9 (24.32%) had moderate to severe fear. However, this difference in fear between males and females was statistically insignificant (p-value=0.281).

Characteristics of participants	COVID-19 fear score binomial		
	Mild/No fear	Mod/Severe fear	p-value
	n (%)	n (%)	
Gender			
Male	54 (84.38)	10 (15.63)	0.281
Female	28 (75.68)	9 (24.32)	
Age			
≤40 years	50 (79.37)	13 (20.63)	0.546
>40 years	32 (84.21)	6 (15.79)	
Qualification			
≤10+2	23 (76.67)	7 (23.33)	0.449
>10+2	59 (83.10)	12 (16.90)	
Dermatological disease			
Acute	43 (87.76)	6 (12.24)	0.101
Chronic	39 (75.00)	13 (25.00)	
Co-morbidity			
Absent	70 (83.33)	14 (16.67)	0.220
Present	12 (70.59)	5 (29.41)	
Marital status			
Unmarried	27 (77.14)	8 (22.86)	0.45
Married	55 (83.33)	11 (16.67)	
Smoking			
Smokers	24 (85.71)	4 (14.29)	0.47
Non smokers	58 (79.45)	15 (20.55)	
Alcohol intake			
Consumers	27 (90.00)	3 (10)	0.47
Non consumers	50 (75.76)	16 (24.24)	
Area			
Rural	53 (84.13)	10 (15.87)	0.33
Urban	29 (76.32)	9 (23.68)	

[Table/Fig-3]: Association of the COVID-19 fear score and descriptive statistics (N=101).

It was seen that 32 (84.21%) of patients with age more than 40 years showed no or mild fear of COVID-19 and 6 (15.79%) were observed to be having moderate to severe fear. In comparison to this, 50 (79.37%) of participants of less than 40 years of age were found to be having no or mild fear and 13 (20.63%) had moderate to severe fear. This difference of fear in relation to age was statistically not significant (p-value=0.546).

On analysis of fear factor on the basis of educational qualification, we found that among subjects with education below secondary school, 23 (76.67%) patients had either no or mild fear of COVID-19 and 7 (23.33%) had moderate to severe fear. On the other hand, subjects with higher education, 59 (83.10%) were found to be having no or mild fear and 12 (16.90%) had moderate to severe fear. On analysis of difference between the two groups, p-value was 0.449 indicating that the difference was statistically insignificant.

In present study, 84 (83.17%) of the participants had no co-morbidity while 17 (16.83%) had some co-morbidity in the form of diabetes mellitus, hypertension, chronic kidney disease or cardiac disease. We observed that among participants without any co-morbidity, 70 (69.30%) reported no or mild fear and 14 (16.67%) reported moderate to severe fear. On the other hand, among participants with co-morbidity, 12 (70.59%) were found to be having mild or no fear and moderate to severe fear was seen in 5 (29.41%) patients.

Evaluation in difference of COVID-19 fear among patients with acute dermatological diseases or cosmetic problems and those with chronic dermatological diseases who have to visit the hospital repeatedly was done. In study subjects with acute or cosmetic problems, it was found that majority 43 (42.57%) reported mild or no fear and only 6 (5.9%) reported moderate to severe fear. On the contrary, among subjects with chronic dermatological diseases, 39 (75%) were found to be having no or mild fear and only 13 (25%) reported moderate to severe fear [Table/Fig-4]. The difference between these two groups was again statistically not significant.

Dermatological disease	No of participants (%) with 'No' or 'Mild' fear score (<21)	No of participants (%) 'Moderate' or 'Severe fear' score (>21)	Total n (%)	p-value
Group 1	39 (75%)	13 (25%)	52 (100%)	0.101
Group 2	43 (87.76%)	6 (12.24%)	49 (100%)	

[Table/Fig-4]: COVID-19 fear score in two groups. p-value was calculated using Chi-square test

Only 3 (2.9%) of the study participants had severe fear while 16 (15.8%) had moderate fear 36 (35.6%) had mild fear and 46 (45.5%) had no fear [Table/Fig-5].

COVID-19 fear score	Interpretation	Number (%)
1-14	No fear	46 (45.5)
15-21	Mild fear	36 (35.6)
22-28	Moderate fear	16 (15.8)
29-35	Severe fear	3 (2.9)

[Table/Fig-5]: COVID-19 fear score in study participants (n=101).

DISCUSSION

In present study, on analysis of data obtained in both the groups, maximum patients had either no or mild fear. Moderate or severe fear was seen only in very few patients and the difference was statistically not significant. Similarly, on analysis of FCV-19 score obtained using all the analysed parameters individually, we did not observe statistically significant fear among study participants.

The pandemic has caused global social and economic disruption. Fear is an adaptive response to the presence of threat and it can become troublesome, if the threat is uncertain and ceaseless [12]. Similar is the case with current COVID-19 pandemic. On the contrary, inadequate fear may result in adverse situations for individuals and society, if people ignore measures imposed by the administration to slow the spread of coronavirus. Besides, fear may trigger safety behaviour (e.g., hand washing) that can alleviate certain threats (e.g., contamination), but they may paradoxically also enhance fear, thereby forming a vicious cycle [13].

Ahorsu DK et al., developed the FCV-19S to complement the clinical efforts in preventing the spread and treating the COVID-19 cases [7]. FCV-19S is a seven item unidimensional scale with strong psychometric properties.

Authors conducted this study to assess the fear factor of COVID-19 pandemic on dermatological patients and to counsel them according to their requirement for treatment in their OPD setup.

As this pandemic is going to stay for long, treatment strategies need to be modified for management of various dermatological conditions.

After emergence of COVID-19 pandemic, various studies from different parts of world showed increased fear and stress among populations. In China and Europe, national polls suggested a considerable increase in fear and concerns relating to coronavirus [14]. In April 2020, a survey conducted on 44,000 participants in Belgium revealed that the number of people reporting anxiety or a depressive disorder had increased substantially as compared to a survey conducted in 2018 (i.e., 20% vs 11% and 16% vs 10% prevalence, respectively) [12]. Khalaf OO et al., did a study to investigate the fear of COVID-19 infection and its relation to depressive and anxiety symptoms among elderly population during COVID-19 outbreak. In contrast to present study, they observed a high average score of fear of COVID-19 [15].

Skin is considered a part of the immune system as it acts as a shield against different environmental stimuli [16]. In general, dermatology deals with a number of inflammatory (infectious and non infectious), neoplastic and other diseases. A number of skin diseases follow a chronic course with acute exacerbations and remissions. Similar is the case with lepra reactions. Such diseases require long immunomodulatory treatment and regular follow-up. Likewise, some cosmetic problems follow a long course, requiring long-term treatment.

In present pandemic times, patients with disease like psoriasis may worsen because COVID-19 fear might lead to increased psychological distress, since such patients are already struggling with a chronic psychologically distressing disease [17]. Moreover, stopping immunosuppressive or immune modulating treatment in psoriasis could result in development of immunogenicity which in turn, can result in reduced response at retreatment. On the other hand, unchecked continuation of immunomodulatory drugs leads to excessive immunosuppression as well as development of other side effects of drugs.

The COVID-19 pandemic has devastated dermatological practices all over the world. Patients with significant acute and chronic dermatological conditions are afraid of COVID-19 infection, hence not coming to OPDs. On the other hand, some patients with minor conditions, cosmetic problems are coming to OPDs frequently. So, different people have different responses to this gruesome pandemic. During medical pandemics, protective behaviour needs to be encouraged and fear appeal is important to introduce behavioral changes in order to control health-related pandemics [18].

In January 2021, first wave of COVID-19 had almost ended and things were thought to be under control. In March 2021, second wave emerged and was much more deadly with a significant case fatality rate. One of the important reasons among many others for emergence of second wave was violation of COVID-19 appropriate behaviour [19].

More recently, a new variant omicron has been reported [20]. This indicates that the pandemic is not yet over. In such an uncertain situation adherence to COVID-19 measures is must.

While protective measures are must, they should not evoke stress in the patients. Mental stress can be an aggravating factor in a number of dermatological diseases. Such patients pose a challenge to the physicians. This situation can be encountered through effective communication and counselling. Patients need to be thoroughly explained about the nature of their disease and adherence to the therapy. At the same time, need for following protective protocols should be emphasised. In the same way, patients with cosmetological concerns should be addressed. For both groups of

patients, in these pandemic times, teledermatology services could be of immense help. Teledermatology offers a method of service delivery which provides improved access to specialised services and at the same time decreases the cost to the patient by eliminating travel charges [21]. Also, at the same time, COVID-19 Standard Operating Procedures (SOPs) can be followed along with delivery of specialised tailored treatment. But first and foremost is counselling of the patients.

Limitation(s)

Small sample size is the limitation of present study.

CONCLUSION(S)

The COVID-19 pandemic has changed the face of dermatology practices. Dermatology patients pose a challenge to the physician as they require long-term treatment with regular follow-up. Patients need to be coached regarding the remitting and relapsing nature of their diseases thoroughly, adherence to the therapy and avoidance of self medication. Simultaneously, they should be explained about the higher risk of acquisition of COVID-19, if are managed with immunosuppressants. Following of COVID-19 SOPs should be emphasised.

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PARTICULARS OF CONTRIBUTORS:

1. Assistant Professor, Department of Dermatology, Venereology and Leprosy, Indira Gandhi Medical College, Shimla, Himachal Pradesh, India.
2. Professor and Head, Department of Dermatology, Venereology and Leprosy, Indira Gandhi Medical College, Shimla, Himachal Pradesh, India.
3. Assistant Professor, Department of Dermatology, Venereology and Leprosy, Indira Gandhi Medical College, Shimla, Himachal Pradesh, India.
4. Assistant Professor, Department of Dermatology, Venereology and Leprosy, Indira Gandhi Medical College, Shimla, Himachal Pradesh, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Renu Rattan,
Set No. 63-64, Block 4, U.S. Club, Shimla, Himachal Pradesh, India.
E-mail: renurattan@gmail.com

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