

Fear of COVID-19 Infection and its Relationship with Health-Related Preventive Practices among Patients Having Chronic Ailments

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ABSTRACT

Background: SARS-CoV-2 infection (COVID-19) is clinical threat to healthy individuals around the world. Risk of disease and related complications are high among immunocompromised individuals and those with pre-existing chronic diseases.

Aim: To assess the fear of Covid-19 among patients having chronic diseases and to determine its relationship with preventive practices among them.

Study Design: Cross-sectional study

Place and Duration of Study: Department of Community Medicine, HITEC Hospital Taxila from 1st September 2020 to 31st March 2021.

Methodology: Three hundred and seventeen patients having chronic diseases were included. Fear of Covid-19 scale used to assess the fear level and questions related to preventive practices.

Results: Fear of Covid-19 was high among females, hypertensive, diabetics and those having cardiovascular disease. Fear was found among 133 (42%) participants. Regarding Covid-19 preventive practices, 8(2.5%) had unsatisfactory, 115 (36.3%) had satisfactory and 194(61.2%) had good preventive practices. Covid precautions were significantly practiced among those having fear. Statistically significant positive correlation was found between mean Covid fear and practices scores ($r=.30$, $p=.001$)

Conclusion: Fear of Covid is a recognized risk factor for anxiety and depression among people. However, fear is found to promote risk perception and health related preventive behaviors among chronic patients that can positively ensure safety, decrease the risk of infection and serious complications among chronic patients.

Keywords: SARS-CoV-19, Fear for Covid-19, Preventive Practices, Chronic diseases.

INTRODUCTION

First SARS-CoV-2 infection among humans named Corona Virus Disease (COVID-19) was reported at the end of 2019. Due to rapid spread of infection across the world, it was declared a pandemic by WHO in March 2020. Disease spreads through aerosol and respiratory droplets. Virus replication in upper respiratory tract results in high infectivity.¹

The prognosis of infection is poor among elderly and those having chronic diseases. Patients with underlying chronic conditions like hypertension, diabetes, cardiovascular disease, liver disease, COPD and cancers may develop dyspnea, hypoxemia and viral pneumonia ultimately leading to respiratory or end organ failure and death.² Covid-19 patients admitted in intensive care units are found to have significantly higher prevalence of hypertension as compared to those not admitted to ICU. Similarly, ICU admissions, mechanical ventilation and mortality is significantly higher among diabetic patients and patients having hyperglycemia at admission.³

Covid-19 patients with chronic liver disease have risk of developing acute chronic liver failure and secondary bacterial infection.⁴ This highlights the significance of preventive practices and provision of health care services on priority bases particularly in limited health care resources to these patients having underlying chronic diseases. Mortality, stigmatization and discrimination associated with Covid-19 infection have led to psychological challenges and fear among population. Various tools are used to assess Covid fear. Fear for Covid-19 Scale consists of seven items scored on Likert

Scale (Score range 7-35). It has been extensively used in many countries to assess Covid related fear, however has not been used yet to screen fear of Covid-19 in our context. Assessment of fear of Covid-19 is required to limit disease spread and unfavorable psychological problems associated with it by timely implementation of appropriate intervention. Secondly the fear might influence the health-related preventive behaviors and practices among people.⁵

The success of fight against Covid-19 pandemic is conditioned with combined efforts of governments and individuals. Social distancing, use of masks, isolation, hand hygiene, cough etiquettes are necessary to contain and mitigate infection in addition to adequate testing and provision of supportive treatment. Moderate to high level of Covid-19 fear is found to be associated with high prevalence of self-isolation and recommended preventive health practices.⁶ Fear is a risk factor for mental illness but to avoid fear situations intentionally, escape and avoidance behaviors are adopted, that are likely to enhance risk perception and positive preventive behaviors.⁷

Fear of Covid-19 has been associated with use of herbal remedies against Covid infection, use of calcium and zinc, food to boost immunity and reduction in smoking practices.⁸ Due to poor prognosis of disease among patients having comorbidities, the main stay to limit disease spread and to reduce mortality of Covid-19 is to interrupt disease transmission by creating awareness, vaccination and adequate preventive health practices.⁹

We aimed to assess the Covid-19 fear among patients having chronic illness and to determine relationship of fear with positive health related preventive

practices among these patients. Results of this study will be helpful in devising the health education messages to sensitize and to achieve health behavior modification among high-risk populations that will ultimately help to limit the Covid-19 pandemic.

MATERIALS AND METHODS

This cross-sectional study was conducted at HITEC Hospital Taxila from 1st October 2020 to 31st March 2021 and comprised 317 patients. Patients having chronic illnesses reporting to outpatient department of hospital for complaints other than Covid were included. Those who ever-had Covid were excluded. The demographic information i.e. age, gender and duration of chronic illness were recorded. Covid fear was assessed by using Fear of COVID-19 Scale, having seven items scored on Likert Scale. Covid fear was categorized to no fear (score 7-14), uncertain about fear (score 15-21), agree to have fear (score 22-28) and strongly agree to have fear (score 27-35). Preventive practices were scored on four-point scale and were categorized into unsatisfactory practices (score 10-20), satisfactory (score 21-30) and good practices (score 31-40). Data was analyzed used SPSS version 26. Chi square test of significance was applied to determine association between Covid fear and preventive practices categories. Pearson correlation was applied to determine association between Mean fear and practices scores. P

value was taken significant <0.05.

RESULTS

The mean age was 42.1±10.8 years and males were 227 (71.6%) and females were 90 (28.4%). Two hundred and seventy three (86.1%) were married, 11 (12.9%) were unmarried and 3 (.9%) were widows. One hundred and fifty three (48.2%) had their own business, 72 (22.7%) had government jobs, 85 (26.6%) had private jobs and only 7 (2.2%) had jobs related to health care. Twenty (6.3%) had illiterate, 129 (40.6%) had qualification between primary to matriculation whereas 168 (52.9%) were graduate and above. The chronic diseases among participants, diabetes was the most frequent 129 (40.6%), followed by hypertension 113 (35.6%), kidney disease 59 (18.6%), heart disease 56 (17.6%), liver disease 27 (8.5%), lung disease 24 (7.5%), psychiatric illness 13 (4.1%) and cancer 8 (2.5%) [Figs.1-2]

Table 1a: Covid Fear Categories

Covid Fear Category	No.	%
No Fear (7-14)	64	20.2
Uncertain about Fear (15-21)	120	37.9
Agree to have fear (22-28)	101	31.9
Strongly agree to have fear (29-35)	32	10.1

Table 1b: Covid Fear Scores

Fear of Covid-19 Scale	SD	D	U	A	SA	Cronbach Alpha .87
I am most afraid of Corona	29	119	30	114	25	
It makes me uncomfortable to think about Corona	14	123	61	99	19	
My hands become clammy when I think about Corona	23	102	108	63	21	
I am afraid of losing my life because of Corona	45	48	103	90	31	
When I watch news and stories about Corona on social media, I become nervous or anxious	41	74	91	66	45	
I cannot sleep because I'm worrying about getting Corona	48	106	75	55	33	
My heart races or palpitates when I think about getting Corona	94	75	67	53	28	

Tab 2: Cross tabulation of Covid Fear and knowledge of having more risk of infection among chronic patients

Do you know that people having chronic diseases have more risk of Covid	Covid Fear Scores Category				P value
	No fear (7-14)	Uncertain about fear (15-21)	Agree to have fear (22-28)	Strongly agree to have fear (29-35)	
Yes	61	112	82	28	.004
No	3	8	19	4	

Tab.3. Covid-19 Preventive Practices among patients having chronic diseases

Variable	Practice				Cronbach Alpha
	Never	Rarely	Some times	Most of the time	
Do you stay at home most of the time?	11 (3.4%)	62 (19.5%)	144 (45.4%)	100 (31.5%)	.84
Do you use mask whenever go outside?	5 (1.5%)	21 (6.6%)	76 (23.9%)	215 (67.8%)	
Do you avoid going to markets, social gatherings?	12 (3.7%)	67 (21.1%)	142 (44.7%)	96 (30.2%)	
Do you frequently wash your hands?	4 (1.2%)	47 (14.8%)	135 (42.5%)	131 (41.3%)	
Do you wash your hands with soap and water after returning home	6 (1.8%)	55 (17.3%)	130 (41%)	126(39.7%)	
Do you use hand sanitizer?	36 (11.3%)	125 (39.4%)	36 (11.3%)	120(37.8%)	
Do you use tissue paper while coughing or sneezing?	10 (3.1%)	61 (19.2%)	148 (46.6)	98 (30.9%)	
Do you cough or sneeze in elbow or upper arm when you don't have tissue?	13 (4.1%)	37 (11.6%)	106 (33.4%)	160 (50.4%)	
Do you discard tissue paper in trash box after coughing or sneezing?	16 (5.0%)	59 (18.6%)	117 (36.9%)	125 (39.4%)	
Do you maintain distance from other people when outside?	8 (2.5)	49 (15.4%)	143 (45.1)	117 (36.9%)	

Tab.4: Cross tabulation of Covid fear and preventive practices among chronic patients

Covid preventive practices	Covid Fear Scores Category				P value
	No fear (7-14)	Uncertain about fear (15-21)	Agree to have fear (22-28)	Strongly agree to have fear (29-35)	
Unsatisfactory	2	2	2	2	.001
Satisfactory	39	38	34	4	
Good	23	80	65	26	

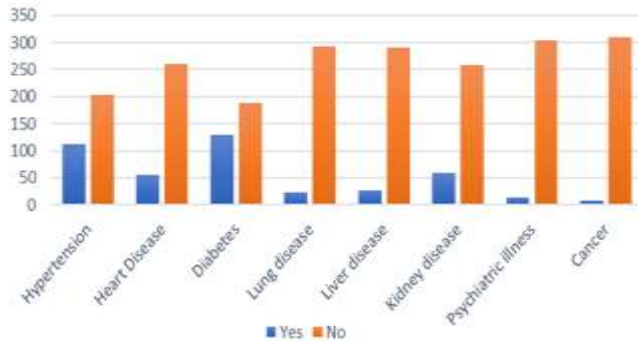


Fig.1: Frequency of chronic diseases among study participants

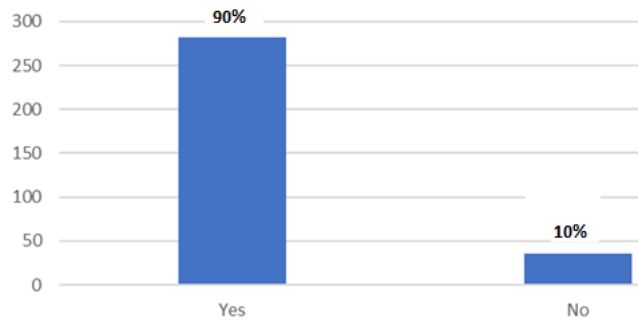


Fig. 2: Knowledge of increased risk of Covid infection and complications among chronic patients

Duration of diagnosed clinical illness was more than five years and less than five years among 181(57%) and 136 (42.9%) study participants respectively. Regarding drug usage, 222 (n=70%) were using the drugs as prescribed, whereas 95 (30%) were not taking the prescribed medicines (Tables 1a, 1b). Statistically significant association was observed between Covid fear and having knowledge that risk of Covid infection and its complication is high among those having chronic infection (Table 2).

Fear of Covid was associated with gender (p=.001), however no association was observed between fear and other study variables, like marital status, duration of chronic illness, occupation or monthly income (Table 3).

Covid-19 preventive practices showed that 8(2.5%) had unsatisfactory,115 (36.3%) had satisfactory and 194(61.2%) had good preventive practices. Statistically significant association was observed between Covid fear and preventive practices among patients (p=.001). Statistically significant association was found between preventive practices and presence of hypertension (p=.007), diabetes (p=.05) and cardiovascular disease (p=.02). Statistically significant positive correlation was observed between mean Covid fear scores and Mean practice scores (r=.30, p<.001) [Table 4].

DISCUSSION

Fear of Covid-19 scale and practices scale had a reliability score of ($\alpha = .87$) and ($\alpha = .84$) respectively. Diabetes and hypertension were the most frequent chronic ailments among study population (n=129, 40.6%) and (n=113, 35.6%) respectively. Fear of Covid was observed among 133 (42%) participants and significantly associated with gender (p=.001). Fear was high among hypertensive (p=.007), diabetic (p=.05) and patients having cardiovascular diseases (p=.02). Covid preventive practices were good among 61.2% of patients having chronic illness. Statistically significant positive correlation was observed between mean fear scores and practices scores (r=.30, p<.001). Our findings contradict to some extent the findings of a study carried out in Saudi Arabia. According to which fear for Covid was high among females (mean 17.99±5.67), divorced or widowed(mean 18.33±6.77), lower education (mean 21±7.07), and economic status and recipients of immunosuppressant therapy(mean 19.56±5.28). Patients having hypertensive (mean 31.67±5.77) and cardiovascular disease (mean 20.76±5.25) were reported to have high fear complementing findings of present study.¹⁰

The Fear for Covid scale was used to assess Covid-19 fear among Turkish population in general and results showed its reliability was ($\alpha = .847$). Moderate to high fear scores were observed in general and particularly among psychiatric patients.¹¹However, in present study fear scores were high and had significant association with hypertension, diabetes and cardiovascular disease.

In the realm of practices, participants over whelming stated to use face masks (n=215, 67.8%) and observe coughing and sneezing etiquettes (n=160, 50.4%). The lowest score for preventive practices was observed for avoidance of social gathering, going to markets and stay at home practices, where only (n=96, 30.2%) and (n=100, 31.5%)participants were found to practice it most of the time respectively. These findings contradict results of a study conducted at Ecuador, where (n=2130; 88.8%) participants stayed at home and left home only once per week, (n=211; 78.4%) maintained distance and avoided social gatherings. Hand washing for at least 20 seconds was practice among (n=2300; 96.6%).¹² Findings of a study done in Saudi Arabia showed that 95% of participants preferred to stay at home, 82% practiced to wash hands for 20s, 81% avoid hand shaking, 76% maintained social distance and 70% observed coughing etiquettes. However, no association of these positive preventive behaviors was observed to exist with fear of Covid-19 infection. These findings contradict the findings of present study and good preventive behaviors were practiced by (n=194, 61.2%) participants and statistically significant positive correlation was observed between mean Covid fear scores and Mean practice scores (r=.30, p<.001). Existence of any type of chronic illness was not found to be associated with

preventive behavior or Covid fear. This finding might be due to the study population of our study where only those having chronic co-morbid conditions participated.¹³

Assessment of Covid fear among patients having chronic ailments in Italy, showed significantly higher association of fear with lung disease, kidney disease, depression and anxiety (all with OR = 1.3–1.4). Higher fear levels reported among females having chronic diseases in Italian study is consistent with findings of present study. However, high fear levels among patients above 60 years of age and retired from job, contradict our findings. This finding might be due to difference in social structure of two populations. Our study demonstrated significant association between Covid fear and preventive practices; however this aspect of fear to positively influence the health behavior was not investigated in said study.¹⁴

Results of a study carried out in Brazil showed high fear level among females, young individuals (18-29 years) those having children, high risk family members and chronic non communicable diseases. Odds of high fear level was significantly high among those practicing Covid preventive measures like social distancing, hand hygiene and face mask.¹⁵

CONCLUSION

To decrease the risk of infection and subsequent complications among individuals having chronic diseases is subjected to optimization of compliance to preventive health behaviors. Fear of the disease can be positively used by healthcare professionals and policy makers to promote risk perception and adaptation of preventive strategies and to overcome negative health impacts of anxiety and fear.

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