Article

Fear of COVID-19, Perceived Susceptibility and Social Distancing during Third-Wave of COVID-19

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Abstract: Background: The current study aimed to explore the relationship between fear of COVID-19, perceived susceptibility and social distancing among adults. The primary purpose of this study was that how the Covid-19 fear affects adult's psychologically and the protocols they adopted or denied for social distancing during the third wave of Covid-19. **Objectives:** The objective of this study was to assess the relationship between study variables and predictive role of fear of COVID-19 on social distancing among adults. **Methods:** This study employed cross-sectional research design. A global sample consisted of 483 adults (male=208 and female=275) with age range from 18 to 50. The adults were recruited using non-probability convenient sampling technique. The sample was collected via an online survey. Measurements used were Fear of the COVID-19 Scale (FCV-19S), Perceived susceptibility scale and COVID-19virus social distance attitude scale. **Results:** Pearson product moment correlation analysis was carried out and results showed that fear of COVID-19 were positively significantly correlated with perceived susceptibility and social distance. Hierarchical Regression analysis revealed that fear of COVID-19 was found to be positive significant predictor of social distancing. **Conclusion:** The fear, which is a negative emotion, is the strongest predictor of human adoption of behavioral change required for surviving in COVID-19 world. This also found that fear is a potent emotion which can elicit desired behaviors e.g. social distancing.

Keywords: Adults, COVID-19, Fear of COVID-19, Perceived susceptibility, social distancing.

1. Introduction

In December 2019, the world has not the same. The speedy spreading of Covid-19 virus which was originated in China (WHO, 2020) engulfed the whole world in a matter of weeks and there was hardly any place on Earth when the virus had not set foot. The emotion of fear was the most profound emotion among people due to the nature of virus also the high mortality rate of the disease rendered people virtually defenseless and helpless (Casanova et al., 2020; Li et al., 2020; Wang et al., 2020).

Pakpour & Griffiths (2020) maintained that regardless of geographical location of people in the world, Covid-19 affected the world. However, the world had seen such outbreaks of infectious viruses earlier as well. The famous infectious virus outbreaks in the appearance of (MERS) i.e. Middle East Respiratory Syndrome and Severe Acute Respiratory Syndrome (SARS) are among the few (da Costa et al., 2020). Despite the lethality of the aforementioned viruses, none of the strands had had the prolific and profound effect on collective human life as Covid-19 did (Lum &Tambyah, 2020; Su et al., 2015; Tambyah, 2003). Therefore, Ornell et al. (2020) maintained that Covid-29 overburdened the health system across all nations in an unprecedented manner. It has wreaked havoc on world economies and society at large. The uncertain nature of this virus espouses little confidence in people as to when things will go back to normal, how many lives will be consumed by the virus, and what will the ultimate toll of the disease (Mamun & Griffiths, 2020). Hence, COVID-19virus was found highly contagious, because the infected person spreading the infection to other individual up to three times (Verity et al., 2019).

Due to the stealth nature of the virus, and the relatively small size of the virus as compared to a bacterium, and the lack of adequate vaccine against its onslaught, humans naturally are encapsulated by a crippling sense of dread and collective anxiety. Therefore, globally lockdown, quarantine, social distance has been executed by governments to decrease the spread of contagious disease to be under control. universally, in sort to control the spread of Covid-19 infection; lockdown and smart lockdown strategies have been enforced and implemented e.g. home isolation, travel limitations, and extinction of public events, (Usher et al., 2020) strictly quarantine infected people from daily activities and implemented curfew (Anderson et al., 2020).

The Pakistan declared first case of the COVID-19virus (first wave) on 26th February, 2020 (Waris et al., 2020). Due to the first wave of Covid-19 was escalated quickly, countryside complete shutter down lockdown was imposed on 23rd March, 2020 and on 9th May 2020; complete lockdown was altered into 'smart lockdown'(Salman et al., 2020). To tackle the onslaught of Covid-19, certain strict remedial measures were taken via governments. These included; shutdown of public access locations, markets, and educational institutions which included primary, secondary and tertiary educational institutes (Kaleem, 2020). Underlying meaning is, 'a contact may be dangerous'. The government of Pakistan established social distance as a 'temporary norm', throughout lockdown. Some preventatives measures (SOPs) were viral through media who modifying our attitudes, behaviors, habits and cognitions such as wearing facemask, washing hands for twenty seconds under running tap, use of hand sanitizer frequently, avoid to touch eyes, nose and mouth, avoid 'handshakes', hugs/kisses instead, encourage elbow greetings, maintain '6-feet masked' distance and social distance from crowded places or visiting/inviting social gatherings are banned (Bintube, 2020).

So, gradually due to the status of pandemic threat, perceived susceptibility toward Covid-19 people learn fear of the Covid-19 and start protecting themselves through social distancing measures. However, reactions varied greatly among people from denial to severity as well (Prentice, Chen, & Stantic, 2020). Worldwide different countries were used various measures to avert the spread of disease which led to increased fear as well as stress among individuals and due to the fear of Covid-19, individuals from US, Turkey, Italy, and France committed suicide, as heard in news, therefore initial stage of pandemic, health professionals enlightened the ways to protect physical as well as also began to accentuate significance of retaining mental health from contagious disease (Bakioğlu et al., 2020).

In November 2020 all over the world the second wave of the Covid-19 was emerged therefore smart lockdown was implemented across Pakistan (Mahmood et al., 2021). Second wave of the Covid-19 pandemic was not clearly defined; yet this second stage is considered when the disease appears as contained in spread before it begins execution from diverse population or locality (Ali, 2020). On the other hand, one common misconception toward the Covid-19 is to presume that it cannot be reoccurring subsequent the 'subsidence of the first wave', resulting in false discernment makes people neglect social distancing protocols and promotes to engagement in socializing, gatherings and traveling as well, so this kind of neglecting behaviors of people can put high burden on healthcare professionals, COVID-19 warriors and also globally threaten the lives of people (Prajapati et al., 2020). Due to this violate behaviors by people all around the world the world hit with third wave of COVID-19 in February 2021, once again death toll increases and put pressure among medical professionals.

1.1 Fear of COVID-19

The "Fear" an adaptive defense mechanism and therefore vital for the survival, also involves in numerous biological procedures for preparation toward response for potentially intimidating actions (Ornell et al., 2020). Though when fear is an unrelenting or inconsistent, it becomes risky and can be key constituent (Shin et al., 2010) for development of diverse psychiatric anarchy. For instance, during pandemic fears increases anxiety or stress among healthy people and intensifies the indication through preexisting psychological disorders (Shigemura et al., 2020).

1.2 Perceived susceptibility

Perceived susceptibility is referred as one's belief of a threat concerning the possibility of getting infection (COVID-19) (Tadesse et al. 2020; Sukeri et al. 2020); it depends upon knowledge to Covid-19 situation (Orji et al. 2012). Earlier researches revealed that there are distinct cognitive predispositions that manipulate individuals' perceived susceptibility that results extensive gap among perceived real health threat (Klein & Stefanek, 2007; Klein & Weinstein, 1997).

1.3 Social distancing

Recently as depicted through Kissler et al. (2020), that social distance is now explained as physical distance for the attention of general inhabitants; not only epicenter of epidemic, but also for national as well as international people (Musinguzi & Asamoah, 2020). In COVID-19 pandemic, sustaining social distance as novel cultural as well as social dimension to people that are practicing worldwide (Das et al. 2020).

2. Literature Review

Previously several studies have argued negative consequences of the COVID-19 epidemic on mental along with physical health (Bitan et al., 2020; Sun et al. 2020), For instance, Schimmenti et al. (2020) argued that COVID-19 pandemic had generated negative emotions (e.g. fear) among individuals. Earlier studies had already revealed reliable substantiation that fear of natural or human made disasters promoted societal obligation moreover altruistic conducts (Britto et al., 2011; Chan, 2017; Shah et al. 2020). Regarding to the study of Shigemura et al. (2019) revealed that positive COVID-19 patients or being suspected to disease may experience severe emotional as well as behavioral reactions which include fear, ennui, isolation, anxiety, insomnia and irritation, other study also reported similar reactions in the past (Brooks et al. 2020).

A large-scale survey (4,536) from Turkey noted effects of susceptibility, threat and fear on precautionary behaviors of the COVID- 19 and results showed significantly linked among variables as well as increase preventive behaviors during COVID-19 pandemic, furthermore females perceived considerably higher level of susceptibility, risk, and fear of COVID-19 as to males (Yıldırım et al. 2020).

The Chinese study stated that approximately1/2 interviewees secreted moderate to severe mental impact due to epidemic and (Wang et al., 2019) about 1/3 had moderate to severe anxiety symptoms. Similar results revealed from Japan, where financial impact had also been theatrical and positive COVID-19 patients or individuals who suspected to be infected by contagious disease had reported intense emotional along with behavioral issues e.g. anxiety, aloneness, fear, anger, tedium and sleep disturbance (Shigemura et al., 2019).

According to across sectional study among different hospitals in Karachi (Pakistan) conducted by Sandesh et al., (2020), researchers explored that the collision of mental health (anxiety, stress, depression) among medical professionals (n= 112) due to COVID-19. The results demonstrated that participants had (72.3%) brutal depression, (85.7%) severe anxiety and (90.1%) extreme stress. Whereas other study showed results among healthcare workers from University teaching hospital (Lahore) were anxiety (36.2%), depressive indicators (30%), acute stress (27.9 %) and insomnia (1.5%). Women and junior staff reported higher level of examined symptoms (Imran et al., 2020).

Regarding to COVID-19 fear, a study on 500 university students conducted by Kausar et al. (2021) to assessed the relationship among the fear of the COVID-19 symptoms (e.g. stress, anxiety and despair) The results revealed positive relationships among study variables. Other study from Salman et al., (2020) found depression along with anxiety in Pakistani university students. Similarly, a study conducted on 347 undergraduate Pakistani students to examine the anxious responses (e.g. fear, psychological pointers and realistic knowledge) along with safety behaviors due to outbreak of COVID-19. The result stated that COVID- 19 fear were associated and predicted among general distress, disgust, physical anxiety and contamination resulting to adopt safety behaviors (Waqas et al., 2020).

Furthermore, the study conducted to investigate the responses of the anxiety, depression with physical wellbeing of COVID-19 recovered 104 individuals among Pakistan. The results demonstrated that social impact of pandemic leaves large loses in business and industries due to lockdown which increase stress among general population and patients. Older people and co morbid patients were most affected with outbreak (Farhan et al., 2020). So the current study intends to determine the role of COVID-19 fear as well as perceived susceptibility acted as predictor of social distance (preventive behaviors) for the current outbreak of third wave of COVID-19 pandemic among adults and to identify the link between the variables. The finding of this research was a minor attempt to fill out the indigenous literature gap.

2.1 Objectives

The specific objectives of the study are:

To examine relationship among fear of COVID-19, perceived susceptibility and social distance toward Covid-19 in adults.

To determine the relationship and to examine the predictive role of fear of COVID-19 on social distance among adults.

2.2 Hypotheses

H1: There is likely to be a positive relationship between fears of COVID-19, perceived susceptibility and social distance measures toward COVID-19 in adults.

H2: Fears of COVID-19 will predict social distancing in adults.

3: Materials and Methods

3.1 Research Design

Cross-sectional research design was used for the current study.

3.2 Sample and Sampling Technique

The sample consisted of 483 adults (male=208 and female=275) with age range from 18 to 50. The adults were recruited using non-probability convenient sampling technique. Sample was collected through an online survey (Google forms). Sample size was calculated through G* power. As per inclusion criteria participants' education must be (Secondary school certificate to PhD).Whereas those adults with any visual impairment were excluded.

3.3 Measures

3.3.1 Fear of COVID-19 Scale (FCV-19S)

For this study we used fear of the Covid-19 scale. This scale is a recent development by the team of Ahorsu et al. (2020). The scale measures fear of COVID-19 by employing the format of a Likert type measurement conducted with five response options. The participants can rate themselves on a continuum of I strongly agree to I strongly disagree. The maximum score achievable for this scale is 35 while the lowest score possible is 7. The questionnaire has seven items. The higher score indicates the higher fear towards COVID-19. The scale has a strong internal consistency of .82.

3.3.2 (HBM) Subscale Perceived Susceptibility

Two items from (HBM) subscale perceived susceptibility (1950) adapted for the current study as it was earlier adapted by Nasir & Almahdi (2020) in their study. Cronbach's alpha in their research was 0.80. The adapted items were "how likely you will be infected" "how likely your family will be infected". Participants were requisite to rate on the each items on the 5- point Likert scale ranging 5 = strongly agree to 1= strongly disagree.

3.3.4 COVID-19virus Social Distance Attitude Scale (CSDAS)

The COVID-19virus social distance attitude scale is developed by An et al. (2020). It consist of the 14 items and scored on 5 point Likert scale, 1= strongly disagree to 5= strongly agree. Internal consistency was (Cronbach's alpha for positive items 0.92 and negative items 0.9) respectively.

3.4 Procedure

Before conducting research, the permission was taken from concerned department, authors of the scales and Supervisor. All research protocols was kept in mind including data collection, information about objective of the research, possible risks and benefits, appropriate information, confidentiality of data, privacy, rights of respondents and research ethics. Participants were assessed by inclusion/exclusion criteria. Further process for the current study was done by selecting the participants of both genders through non-probability convenient sampling technique from different social media platforms.

Understanding the sensitive nature of the work and the health concerns at hand, the researchers opted to gather responses via an online survey. This was also done to reduce chances of spreading COVID-19 virus. Keeping in view the current paradigm of COVID-19, Data were collected via an online survey.

3.5 Ethical Considerations

Informed consents was taken from the participants and informed about the nature of the research moreover, in case of any difficulty in understanding the scales they were advice to directly seek the researcher help through given email. Researcher was also assured the participants that their information is used in the research were purely for purpose of the study and during the research process they can withdraw any time. Furthermore, results were reported truthfully.

4. Results

The data of this study was analyzed in five steps. In the first step, after screening the data, reliability analysis of the scales were computed by Cronbach's alpha (Table 2). In the second step Pearson product movement correlation was computed to find out the relationships between fear of COVID-19 perceived susceptibility and social distancing (Table 3). While into the final step multiple hierarchical regressions was applied to see the prediction of fear of COVID-19 on social distancing (Table 4).

Table 1: Demographics Characteristics of the Sample (N=483).

Characteristics	f (%)	M(SD)
Age	-	1.0(1.1)
Gender	-	-
Male	208(43.1)	-
Female	275(56.9)	-
Education	-	-
SSC/HSSC	85(17.6)	-
Bachelor	151(31.3)	-
Masters	100(20.7)	-
M.Phil/MS	111(23.0)	-
PhD	36(7.5)	-
Continent Asia	-	-
Pakistan	455(94.2)	-
Saudia Arabia	1(.2)	-
Afghanistan	1(.2)	-
Turkey	3(.6)	-
Bangladesh	1(.2)	-
UAE	3(.6)	-
Continent Europe		
UK	8(1.7)	-
Spain	1(.2)	-
Italy	1(.2)	-
Continent North America		
Canada	2(.4)	-
Other foreign cities	27(5.5)	-
Relationship Status	-	-
Single/Unmarried	235(48.7)	-
Married	214(44.3)	-
Engaged	17(3.5)	-
Separated	6(1.2)	-
Divorced	5(1.0)	-
Widow	6(1.2)	-
Employment/Unemployment	-	-
Employment	292(60.5)	-
Unemployment	191(39.5)	-

Note: Gender: Men = 0, Women = 1, Education; SSC/HSSC= 0, Bachelor = 1, Masters = 2, M.Phil/MS =3 PhD =4,Pakistan = 0, USA = 1, UK = 2, Spain = 3, Saudi Arab =4, Afghanistan =5, Turkey = 6, Italy =7, Bangladesh =8, Canada =9, UAE =10, , Foreign cities =11, Relationship Status; Single/unmarried = 0, Married =1, Engaged = 2, Separated = 3, Divorced = 4, Widow = 5, Employment/Unemployment; Unemployment = 0 Employment = 1

Table 2: Cronbach's Alpha and Descriptive Statistics of the fear of COVID-19, perceived susceptibility and social distancing (N=483)

Variables	k	M(SD)	Range		A
			Actual	Potential	
Fear of COVID-19	7	19.9(5.8)	7-35	7-35	.86
Perceived susceptibility	2	6.3(1.8)	2-10	2-10	.75
Social distancing	14	47.1(5.8)	14-70	14-70	.61

Note. k= number of items

Pearson product movement correlation was carried out to find the relationships between three variables fear of COVID-19, perceived susceptibility and social distance. It was hypothesis that there is likely to be a relationship between fear of COVID-19, perceived susceptibility and social distance. Table (4.1) the descriptive statistics and reliability coefficients of the scales showed good reliability respectively.

Table 3: Correlation between fear of COVID-19, perceived susceptibility and social distance (N=483)

Variables	1	2	3
Fear of COVID-19	-	.34***	.31***
Perceived Susceptibility	-	-	.14***
Social Distance		-	-

Note. *p< .05, **p < .01, ***p< .001

Correlation results demonstrated that fear of COVID-19 was positively significantly correlated with perceived susceptibility and social distance. Moreover perceived susceptibility was positively and significantly correlated with social distance.

Table 4: Multiple Hierarchical Regression Analysis Predicting Social Distance for Adults (N = 483)

Variables	Social Distance	
	ΔR^2	β
Step 1	.04***	
Control Variables*		
Step 2	.13***	
Fear		.21***
Total R^2	.14***	

Note.*Control variables were age, gender, education, continents, employment/ unemployment, relationship status

The results revealed that after controlling demographics variables age, gender, education, Continents employment/ unemployment, relationship status in step 1, fear of COVID-19 was entered in step 2 overall model experienced 14.2% of variance for social distance with F (252,28) 8.7 p<0.5. Fear of COVID-19 was found to be positive significant predictor of social distancing.

5. Discussion

The current study intended to examine the relationship between fear of COVID-19, perceived susceptibility and social distancing among adults. Overall, findings of current study revealed that due to COVID-19 fear participants relatively engaged in social distancing protocols which is encouraging finding, because the spread of virus depends on everyday human behaviors like personal hygiene as well as social contact (Wang et al.,2020).

Firstly, it was hypothesized that there is likely to be positive relationship between fears of COVID-19, perceived susceptibility and social distance in adults. The results of current study have shown momentous relationship among finding, fears of COVID-19, perceived susceptibility and social distance. Study' 1st hypothesis is accepted by recently studies of Chang et al., (2020); Anaki & Sergay, (2021) which showed a association among fear and COVID-19 preventative behaviors (social distance),whereas in another study susceptibility and fear were linked to preventive behavior e.g. social distance toward COVID-19 (Yıldırım et al., 2020). Parallel results have been demonstrated earlier by (Oh et al., 2020; Zhong et al., 2020).

Harper et al.'s (2020) study results revealed those individuals, who feel fear regarding COVID-19, employ more suggested preventative health behaviors like hand washing and to adopt social distancing measures.(Oh et al., 2020).

Similarly, as per available data on previous versions of this respiratory virus, individuals who came in close personal contact with individuals already infected with the disease felt more guilty at putting themselves in harm's way, felt more at risk and now being infected with the virus, and also felt fear and irritability (Brooks et al., 2020).

Secondly, it was hypothesized that fears of COVID-19 predict social distancing in adults. The result showed that fear of COVID-19 was found to be positive significant predictor of social distance, suggesting that higher COVID-19 fear scores were individuals who were engaged in more social distancing. Thus, the current finding of the study intends that fear of COVID-19 predict change attitudes of adults and motivated to protect them from danger, which leads them to engage in social distancing protocols. This is interesting to note that to safeguard their own health, humans are readily agreeable to put themselves in restrictions. This openness to self-incarceration in the name of protection i.e. social distancing and isolating are attitudes are new findings in the field of health and decision sciences (Koniak & Cwalina 2020).

It is now understood that first few weeks of the onset of COVID-19 epidemic, fear of the unknown was very high (Wise et al.,2020). The fear of the sweeping effects of virus kept many people adhering strictly to activities which restricted their chance of catching and/or transmitting the virus. These actions included but were not limited to sanitizing themselves specially hands and maintaining social distance.

Similar results were reported in another research conducted in the same year. Harper et al. (2020) revealed that the emotion of fear was by far most efficacious indicator of required attitudinal and behavioral change associated with curtailing the spread of COVID-19. Yet another study via Bashirian et al. (2020) suggested that fear of being infected with COVID-19 increased proportional to the proclivity of individuals to adhere to the Covid-19 precautionary measures. Winter et al. (2020) and Cyprya´nska & Nezlek (2020) also summed up in their study those logistical restrictions e.g. lockdown measures were positively correlated to fear of contacting COVID-19 virus

6. Conclusions

Based on findings, study found out that fear of COVID-19 was positively significantly correlated with perceived susceptibility and social distancing and fear of COVID-19 was found to be positive significant predictor of social distancing among adults. Thus the fear, which is a negative emotion, is the strongest predictor of human adoption of behavioral change required for surviving in COVID-19 world. This also suggests that fear is a potent emotion which can elicit desired behaviors e.g. social distancing. So fear of COVID-19 predicts change attitudes of adults and motivated to protect them from danger, which leads them to engage in social distancing protocols.

7. Implications

Findings of this study will be helpful for researchers, psychologists as well as other concerned authorities to further explore the causes and effects on mental health owed to the Covid-19 epidemic and implicated in clinics and the hospitals of Pakistan to find the impact and problems that are mainly caused due to the fear of Covid-19 pandemic especially in Pakistani cultural contexts.

8. Limitations and Recommendations

The current study only included adult participants from different countries including more from Pakistan. Adolescents and older adults were excluded from the data collection. Might be it influences the result of the current study, because every age group may think differently. Another limitation was that this study used cross sectional research design, which keeps from drawing causal derivations. The current study used to collected data through an online mode therefore participants should also be biased, but participants who did not use or unable to access internet were not represented. Furthermore, this study was based on large sample also important support to future research to expand these results. But it is recommended that similar study should be conducted with various designs as well as measurements in different settings to be more representing findings.

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