Pakistan Journal of Professional Psychology: Research and Practice Vol. 13, No. 2, 2022
https://doi.org/10.62663/pjpprp.v13i2.31

The Role of Post-Traumatic Stress Symptoms and Psychological Distress on Quality of Life of COVID-19 Survivors

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This study aims to examine the relationship of posttraumatic stress symptoms, psychological distress, and quality of life in Covid-19 survivors. Participants were N=120 Corona survivors (MA = 29.03; SD = 10), where 56.7 % were males and 43.3% were females from Lahore, Pakistan. The sample was collected using purposive and convenience sampling technique. In order to gather data, Depression Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1996), PTSD Checklist for DSM-5(PSL-5) (Weather et al., 2013), World Health Organizations Quality of Life (WHOQOL) BREF (Whoqol Group, 1998) and Demographic form were administered. Correlation research design was employed. Data was analyzed using Pearson Product Moment Coefficient of Correlation and Multiple Linear Regression. Results indicated moderate to severe levels of depression, anxiety and distress symptoms with significant scores of 53.3%, 56.6% and 39.1% respectively. Moreover, common symptoms reported by survivors included fever (68.3%), dry cough (54.2%), headache (49.2%), loss of sense of smell (39.2%) and taste (37.5%). Results revealed a significant relation between the study variables, whereas psychological distress and post-traumatic stress symptoms significantly predicted lower quality of life. The findings of the present study have implications for psychologists, psychiatrists, mental health professionals and social workers the results also provide concrete bases in forming and implementing mental health intervention policies to cope with post Covid-19 challenges effectively. The psychological interventions and mental health strategies provide psychological support and guidance that will contribute to mental health well-being, and improve the quality of life and coping strategies.

Keywords: psychological distress; post-traumatic stress; quality of life; Covid-19

Covid-19 has been declared as a pandemic by World Health Organization [WHO, (2020)] after its widespread around the globe. Historically, pandemics and epidemic diseases have always adversely affected masses all around the globe leaving aftershocks in terms of changes in people's lives, lifestyles, health, economies etc. (Rehman et al., 2020). Covid-19 is a novel coronavirus disease, which was first identified in Wuhan, Hubei, China in the last month of 2019. It includes the set of atypical warning signs ranging from mild to moderate symptoms of cough, cold, fever, body aches and pain, breathing problems, leading to pneumonia, severe respiratory failure and ultimately to death (Haleem et al., 2020).

Psychological distress (PD) is classified broadly as the manifestation of issues related to mental health which are mainly characterized by symptoms of depression, anxiety, and stress. It is an unpleasant emotion or feeling that has adverse effects on person's general life functioning and which gives rise to certain negative feelings related to self, others and his/her environment (Arvidsdotter et al., 2016). A research in Karachi suggested that the majority of the participants experienced moderate to extreme levels of depression, anxiety and stress (Sandesh et al., 2020). During this pandemic, people who are at risk of having psychological distress may include people who are infected with Covid-19, and who are socially isolated in quarantine. Being isolated is known to have detrimental effects on mental health (Leigh-Hunt et al., 2017).

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The presence of general psychopathological symptoms also has an adverse influence on individual's life quality. Quality of life (QoL) is defined as the phenomenon which is influenced by certain factors such as personal psychological well-being, environmental factors like interactions with environment, emotional well-being and social functioning. It is a measure of how individual's interactions affect overall wellbeing and satisfaction which includes physical health, mental functioning, and religious beliefs, financial status, and social support etc. (Herrman & Chopra, 2009).

It is found that people who live during the pandemics and epidemics have significantly a lower quality of life (Chen et al., 2020). A research conducted by Tansey et al. (2007) reported that the majority of patients who survived SARS, experienced a significant decline in their quality of lives.

In literature, it is known that people who went through such health-related emergencies also developed the symptoms of post-traumatic stress disorder (Brooks et al., 2018). During SARS outbreak, many survivors experienced prolonged psychological distress that led to trauma related symptoms ultimately leading to the diagnosis of post-traumatic stress disorder (Wu et al., 2009; Mak et al., 2009). Post- traumatic stress disorder (PTSD) is described as a psychological disorder that can occur after people have gone through any traumatic experience(s) directly or indirectly (Haleem et al., 2020). Traumatic experience can also be defined as being infected in a physical illness that can be life-threatening.

Pakistan is one of the developing countries with higher poverty rate. Due to forced closure of businesses, many individuals were compromised financially, forcing them to continue with the basic necessities of lives. This strain in their economic status might result in being a major reason causing negative impact on their quality of lives (Haleem et al., 2020). Bo et al. (2020) research found out that the majority of the participants experienced post-traumatic stress symptoms and psychological distress before their discharge from the isolation/quarantine that had an adverse effect on their quality of life.

Rehman et al. (2020) conducted a cross-sectional research in India with the aim to find psychological distress among general population in the times on Covid-19. Sample included 403 participants (females = 291, males = 110) with the mean age of 28.95 years. Participants were administered Depression Anxiety Stress Scale (DASS) and Family Affluence Scale (FAS). Statistical analyses included Pearson Product Moment Coefficient of Correlation, independent sample t-test, and ANOVA. Results indicated that stress ($r = -0.20$, $p < 0.01$), anxiety ($r = -0.18$, $p < 0.01$), and depression ($r = -0.19$, $p < 0.01$) were negatively correlated with family affluence. It was also concluded that healthcare professionals (doctors and nurses) and students were more prone to depression, anxiety, and stress as compared to others.

Samlani et al. (2020) conducted a cross sectional research in Morocco with the aim of finding the impact of Covid-19 on well-being and QoL on general population. The total number of participants were 279 (males = 277, females = 135) with a mean age of 34.75 years (SD = 11.8). Participants were administered SF-12 in order to ascertain the quality of life. Results of t student test showed that participant's physical quality of life (mean = 36.10, SD = 5.82) was more disrupted than mental well-being (mean = 34.49, SD = 6.44).

Kugler et al. (2016) conducted a cross sectional research with an aim to find the role of anxiety in the relationship between PTSS and negative quality of life outcomes. Participants included 120 trauma exposed adults with the mean age of 23.84 years (SD = 6.84), where 68.9% were females (n = 84) and 31.1% were males (n = 38). Participants were administered the PCL-Civilian, WHOQOL-BREF, DASS- 21, The Trauma History Questionnaire-Short, Sheehan

Disability Scale, the Anxiety Sensitivity Index-3, and the Economic Impact Questionnaire-Revised. Results of Pearson Product Moment Coefficient of Correlation found significant negative relationship of PTSS with domains of QOL i.e. social ($r = -0.31$, $p < 0.01$), physical ($r = -0.28$, $p < 0.01$), psychological ($r = -0.42$, $p < 0.01$), and environmental ($r = -0.24$, $p < 0.01$). Mediation analysis found that anxiety sensitivity mediated the relationship of PTSS and physical health of quality of life.

Literature review findings generally show that Covid-19 leaves negative impacts such as psychological distress, post-traumatic stress symptoms, and QoL in people who are directly or indirectly exposed to the virus. Pandemics not only affect the people of its origin, but people from around the globe also become affected. It has been seen in previous research that following the pandemics and/or epidemics people experience depression, stress, anxiety, PTSD symptoms etc. (Beaglehole et al., 2018; Park et al., 2020). The current pandemic has also already created a lot of disturbance in the lives of people around the globe. The conditions, where people are facing Covid-19 pandemic are those of uncertainty related to vaccination, fear and worry of the future, and may make people more prone to psychological distress. With the prolonged preventative measures in the form of lock down and social distancing, along with depression and anxiety, there is also a substantial increase in loneliness, anger, domestic violence, child abuse, depression, anxiety and post-traumatic stress symptoms. These psychological changes also influence the life style individuals, hence impacting the quality of life. All of the mentioned factors call for the need to study the effect of Covid-19 on people's mental health and quality of life. In Pakistan, mental health is already given lesser significance to mental health. The findings of the present study will benefit psychologists, psychiatrists, mental health professionals, social workers and policy makers where the results would provide a concrete bases for forming and implementing of relevant mental health psychosocial intervention policies to cope with post Covid-19 challenges effectively and efficiently.

Method

Correlational research design was used in the present research in order to find the relationship between psychological distress, post-traumatic stress symptoms, and quality of life in Covid-19 survivor patients. With the help of this research design the strength of association among the mentioned variable can be assessed (Wang, 2015). Data was collected from N=120 participants who survived Covid-19 from Lahore, Pakistan. The participants were recruited through purposive and convenience sampling strategy. Sample included 56.7 % males (n = 68) and 43.3% females (n = 52). The age range of participants was 18-59 years with the mean age 29.03 years (SD = 10.00). Mean days of isolation were13.84 days (SD =7.88) where they took 15.37 days (SD = 9.91) to recover fully. Participant with physical disability or any preexisting medical conditions were excluded from the study.

Assessment Measures

Depression, Anxiety and Stress Scale

Depression, Anxiety and Stress Scale (DASS) was selected to assess psychological distress where symptoms of depression, anxiety and stress were assessed among participants. It is a self-reported scale which contains 21 items which are arranged in a 4 point likert scale where 0 means "Did not apply to me at all (never)", 1 means "Applied to me to some degree, or some of the time (sometimes)", 2 means "Applied to me to a considerable degree, or a good part of

time (often)" and 3 means "Applied to me very much, or most of the time (almost always)". Final scores are labeled according to their severity levels. The cut-off scores of depression, anxiety and stress are 9, 7 and 14 respectively. The psychometric properties of the scale is well defined where Cronbach's alpha scores ranges from 0.84 to 0.91 (Lovibond & Lovibond, 1996).

PTSD Checklist for DSM-5

The PTSD Checklist for DSM-5 (PCL-5) was used to find the post-traumatic stress symptoms of participants (Weathers et al., 2013). It is a self-reported scale which contains 20 items which are arranged in a 5 point Likert scale where 0 means "Not at all' and 5 means "Extremely". The total score range from 0 to 80, where higher score with the cut off of above 30 indicates more serious symptomatology of PTSD that requires clinical attention. The psychometric properties of the scale are well defined where Cronbach's alpha was 0.94 (Blevins, Weathers, Davis, Witte, & Domino, 2015).

World Health Organizations Quality of Life (WHOQOL)-BREF

It was used to find out the quality of life of participants. The self-reported questionnaire in includes total of 26 items that are arranged into four different domains which cover the areas of physical health, psychological wellbeing, socialization and environmental health. The Likert scale has the range of score of each item between 1 and 5; higher score in each domain means higher quality of life. Cronbach's alpha values of four domains ranged between 0.66-0.94 (Whoqol Group, 1998).

Demographic Form

A self-constructed demographic form was used to collect personal information from participants i.e. age, symptoms, presentations, education, time of recovery, and impact on income etc.

Procedure

First of all, permission was sought by email from the authors of the mentioned tools and instruments to use the tools in the study. Then after getting the permission from the Institutional Board Review of Kinnaird College for Women; pilot study was conducted with 20 participants in order to assess any potential problem during data collection. For online data collection, Google form was shared containing all the measures and instruments and electronic consent was taken from them. Participants were briefed about the nature and the purpose of the study; written consent was taken from Covid-19 survivors who accomplished the inclusion criteria. Participants were ensured about the confidentiality of their data and they were told about their right to withdraw from study at any time. Participants were administered Demographic Form, Depression Anxiety and Stress Inventory (DASS), PTSD Checklist for DSM-5 (PCL-5) and World Health Organizations Quality of Life (WHOQOL)-BREF, respectively. One-time approach with the participants was done and the administration took 15 to 20 minutes.

Permission was taken from the authors for using scales in this research. The purpose, and aim of the research was explained to the participants and written consent was obtained. Privacy and confidentiality were taken care of as the participants were assured about the anonymity of their information and they were also told that data shall only be used for research purpose. They were informed about their right to withdraw from the study at any point in time. Assurance was provided to the participants that the study would not do any

physical or psychological harm. Due to the moral and professional commitment of the researcher for not abusing the data, essential data security measures were taken to keep the information secure and under strict supervision to avoid any risk. All questions were asked in a supportive and non-judgmental manner. It was ensured that context, values and emotions of the researcher did not influence the proposed information of the participants. Results are reported according to APA guidelines.

Statistical Analyses

The IBM Statistical Package for Social Sciences (SPSS; Pallant, 2013) version 23 was used to analyze the data. To find out the relationship between posttraumatic stress symptoms, psychological distress and quality of life of Covid-19 survivors, Pearson Product Moment Coefficient of Correlation was used. In order to find the prediction, multiple linear regression analyses were used. Reliability analysis was done for the purpose of finding psychometric properties of the tools. Descriptive analysis included mean standard deviation, frequencies and percentages. Pictorial depiction of data was done using bar chart.

Results

Table 1 shows sound psychometric properties where strong level of Cronbach's alpha value is observed. By looking at the values of skewness and kurtosis it can also be seen that the distribution of sample data is free of significant skewness and kurtosis as values fall between the acceptable ranges of ± 0.96, indicating that the distribution is approximately normal.

Table 1

Psychometric Properties of Study Variables calculated from the present data (N=120)

Variables	*K*	M	S.D	α	Skewness	Kurtosis
PTSD Checklist for DSM-5	20	30.00	1.60	0.95	0.02	-0.88
PD-Depression	7	7.37	0.51	0.90	0.34	-0.84
PD-Anxiety	7	7.17	0.45	0.86	0.34	-0.59
PD-Stress	7	7.61	0.48	0.90	0.12	-1.10
QOL-Physical health	7	21.94	0.42	0.77	0.47	0.13
QOL-Psychological	6	19.41	0.35	0.72	0.49	-0.19
QOL-Social relationships	3	6.62	0.15	0.67	-0.39	-0.29
QOL-Environment	8	24.68	0.44	0.80	0.20	-0.38

Note. PD = Psychological Distress, QOL = Quality of Life, k = Total no. of Items, M = Mean, S.D = Standard Deviation, α = Cronbach's Alpha

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Table 2
Frequency Distribution of Symptoms Severity of Depression Anxiety and Stress Scale(N=120)

Ranges	Depression	Anxiety	Stress
Normal	47 (39.2 %)	35 (29.2 %)	59 (49.2 %)
Mild	9 (7.5%)	17 (14.2%)	14 (11.7%)
Moderate	24 (20.0%)	9 (7.5%)	22 (18.3%)
Severe	25 (20.8 %)	16 (13.3 %)	18 (15.0 %)
Extremely severe	15 (12.5 %)	43 (35.8 %)	7 (5.8 %)
Percentage of People above cut off scores	60.8%	70.8%	50.8%

Table 2 shows that 20.8 % and 12.5 % people experienced severe and extremely severe levels of depression respectively. Whereas, among participants only 13.3 % experienced severe and 35.8 % of participants shows extremely severe levels of anxiety. 15% participants showed severe stress and 5.8 % of participants experienced extremely severe stress levels.

Table 3
Shows cutoff of people on PCL-5 (N=120).

Categories	Frequency (%)
Below Cutoff	58 (48.3)
Above Cutoff	62 (51.7)

Table 4
Pearson Product Moment Coefficient of Correlation between Post-Traumatic Stress Symptoms, Psychological Distress and Quality of Life in Covid-19 Survivors (N = 120)

Variables	1	2	3	4	5	6	7	8
1 PTSS	-							
2 Depression	0.80**	-						
3 Anxiety	0.73**	0.83**	-					
4 Stress	0.78**	0.89**	0.81**	-				
5 Ph-QoL	-0.62**	-0.59**	-0.49**	-0.55**	-			
6 Psy-QoL	-0.51**	-0.46**	-0.37**	-0.45**	0.68**	-		
7 Social-QoL	-0.40**	-0.28**	-0.20**	-0.30**	0.47**	0.65**	-	
8 Env-QoL	-0.29**	-0.21*	-0.17	-0.26**	0.57**	0.61**	0.71**	-
M	30.00	7.37	7.17	7.61	21.94	19.41	6.62	24.68
SD	1.60	0.51	0.45	0.48	0.42	0.35	0.15	0.44

Note. M=Mean; SD=Standard Deviation; PTSS=Post-Traumatic Stress Symptoms; QoL=Quality of Life; Ph-QoL=Physical Health-Quality of Life; Env-QoL=Environmental Quality of Life.
*p<0.05; **p<0.01

Table 4 shows the results of Pearson Product Moment Coefficient of Correlation between post-traumatic stress symptoms, psychological distress and QoL in Covid-19 survivors. Results shows a strong positive correlation between PTSS and all of the domains of psychological distress (depression, anxiety and stress) which means that people who suffer more from psychological distress also suffers from PTSS. It can also be seen that both of these variables have negative significant relation with domains of quality of life which means that people who

are more psychologically distress and experience greater symptoms of PTSD experience low quality of life and vice versa during COVID-19.

Table 5

Multiple Linear Regression between Post-Traumatic Stress Symptoms, Psychological and Quality of Life in Covid-19 Survivors (N = 120)

Variables		B	SE	β	R^2	ΔR^2
Physical QOL						
	PTSS	-0.16	0.02	-0.62**	0.38	0.38
	Depression	-0.48	0.06	-0.59**	0.35	0.34
	Anxiety	-0.45	0.07	-0.49**	0.24	0.24
Psychological QOL	Stress	-0.47	0.07	-0.55**	0.30	0.30
	PTSS	-0.11	0.02	-0.51**	0.26	0.25
	Depression	-0.32	0.06	-0.46**	0.21	0.21
	Anxiety	-0.29	0.07	-0.37**	0.14	0.13
	Stress	-0.33	0.06	-0.45**	0.20	0.19
Social QOL						
	PTSS	-0.04	0.01	-0.40**	0.16	0.16
	Depression	-0.08	0.03	-0.28**	0.08	0.07
	Anxiety	-0.07	0.03	-0.20*	0.04	0.03
	Stress	-0.09	0.03	-0.30**	0.09	0.08
Environment QOL	PTSS	-0.09	0.03	-0.29**	0.08	0.08
	Depression	-0.20	0.08	-0.21*	0.05	0.04
	Anxiety	-0.17	0.10	-0.17	0.03	0.02
	Stress	-0.25	0.09	-0.26**	0.07	0.06

Note. QOL = Quality of life, B = Unstandardized Regression Coefficient, β = Standardized Regression Coefficient, SE = Standard Error for Beta, * = $p < 0.05$, ** = $p<0.01$.

Results of table 4 reveal the result of multiple linear regressions. Negative values of standardized regression coefficient show inverse direction between two variables. It was found that the psychological distress and post-traumatic stress symptoms negatively predicted the quality of life of participants. Where, participants who had the symptoms of depression, anxiety, stress and PTSS, had negative and poor physical, psychological, and social quality of life. Moreover, post-traumatic stress symptoms, depression and stress also predicted poor environment and quality of life during COVID-19.

Discussion

The purpose of the present research was to find the relationship between psychological distress, post-traumatic stress symptoms, and quality of life in Covid-19 survivors. Another purpose was to find the role of psychological distress and post-traumatic stress symptoms in predicting the quality of life of participants. Additionally, the study also aimed at finding the prevalence of psychological distress and post-traumatic stress symptoms in Covid-19 survivors.

Socio-demographic analyses showed that the majority of the survivors were males which is in line with literature (Sharif et al., 2020; Khan et al., 2020; Shehryar et al., 2020). In Pakistani society, men being the breadwinner of the family and have the responsibility to go out and work in order to support the family; hence they are more exposed to the virus whereas, females having

the role of a homemaker are not directly exposed. Additionally, the present research also highlighted that other than males, participants had the mean age of 29.03 years and majority had the education level of graduation and above, also takes up the workforce in Pakistani households. The most prevalent clinical presentations of Covid-19 among participants were fever (68.3 %), dry cough (54.2%), headache (49.2 %), lost sense of smell (39.2 %) and taste (37.5%). Research carried out by Sharif et al., (2020) found similar trends of clinical presentations among their participants.

The present research contributes to the literature where the prevalence and severity of depression, anxiety and stress symptoms were also observed, and overall participants reported moderate to severe levels of depression, anxiety and distress symptoms were 53.3 %, 56.6% and 39.l % respectively. In line with literature (Sandesh et al., 2020), similar results were reported in research carried out in China where half of the participants had a significant psychological impact of this pandemic (Wang et al., 2020). The results also showed higher rates of post-traumatic stress symptoms among participants where more than half of participants (51.7 %) scored higher than cut off suggesting the need of clinical attention. Similar trends were also observed in literature, where higher prevalence of PTSD in Covid-19 survivors was reported (Alshehri et al., 2020; Bo et al., 2020). In May 2020, a review study aimed to explore the psychological symptoms associated with the pandemic among the general population and healthcare workers (Vindegaard et al., 2020). The authors reviewed 43 research studies to investigate the association between COVID-19 and mental health. Similar findings have been reported by another review study with a higher prevalence of depression (28%) and anxiety (33%) among health care workers and the general population (Luo et al., 2020).

Results of correlation showed that participants who experienced higher levels of depression, anxiety, stress and post-traumatic stress symptoms had a lower quality of life. Where, their psychological health, physical health, social relationships and environmental conditions were deteriorated. In literature it can be seen that pandemics or epidemic have the tendency to leave certain kind of aftershocks where individual's wellbeing gets impacted including both their mental and physical wellbeing (Tansey et al., 2007; Batawi et al., 2016; Raman et al., 2020; Bo et al., 2020). The negative impact of psychological distress and PTSS on QoL during the time of Covid-19 is also evident in the present research; similar correlations have also been reported in literature (Wang et al., 2005; Schnurr et al., 2006).

In India, research also reported a negative correlation between anxiety and quality of life depicting that with Covid-19 pandemic person's level of anxiety is increasing which is negatively impacting the quality of life (Kharshiing et al., 2020). Keeping in mind the human-to-human transmission, the outbreak of Covid-19 pandemic came with certain preventive measures of self-isolation and social distancing. These measures have challenged all the aspects of mental health, where person's emotional health, psychological wellbeing and social wellness are all impacted at a collective level (Mukhtar, 2020). This might be because in Pakistani collectivist culture, a basic family unit comprises extended families with multiple generations living together, therefore the social distancing practices brings a negative impact on mental health of all family members. Being socially isolated, staying without the physical company of people may result in the increased levels of loneliness, frustration, fear of missing out etc., resultantly proliferating the psychological distress (Majeed & Ashraf, 2020). With the short-term mental consequences of psychological distress, literature has shown that during past pandemics (SARS and MERS) PTSD was found to be one of the most common long-term psychiatric disorders, which is also predicted in Covid-19 (Mak et al., 2009; Lee et al., 2006; Xu, et al., 2011; Khan et al., 2020; Tan

et al., 2020).

Research has found that major psychological impacts of quarantine included frustration, confusion and most importantly PTSD (Brooks et al., 2020). Interpersonal factors including negative emotions, unhealthy relations and family environment, domestic abuse, poverty, and financial instability might result in lower quality of life as suggested by results. Lockdown resulting in restrictions in movement makes person feel that their environmental mastery and autonomy is compromised. Because of the said factors he/she might feel the decrease in their physical health, might question their life, its meaning in life or socially they might harbor negative emotions about the relationships with others too (Velden et al., 2020). Salman et al., 2020 in their research found difficulty doing daily activities, taking care of personal wellbeing and not getting along with others, being the major source of psychological distress the impacted their quality of their lives.

Results of multiple linear regressions between post-traumatic stress symptoms, psychological distress and quality of life in Covid-19 survivors also confirmed the hypothesis that psychological distress and PTSS does in fact influence and predict negative quality of life. Research carried out by Wang et al. (2005) on individuals with traffic-related injuries, they also found that depression, anxiety, and PTSS significantly predicted a lower quality of life in survivors with this traumatic experience.

In Pakistani history, Covid-19 is the pandemic we are facing for the first time where people have suffered more than people from other countries with experience of pandemics (MERS & SARS etc.). The substantial burden of the present pandemic has led to increased feelings of uncertainty and fear of unknown. It cannot be denied that the condition is causing a great deal of depression, anxiety, and stress in people of all ages. The idea of being infected by a virus without any available vaccine is in itself a great source of psychological distress, but with this the variations in recovery time, annoyance, fear of death, feelings of solitude, being isolated and alone in quarantine enhanced the psychophysical symptoms of patients. These conditions mark the beginning of PTSS where person's quality of life gets reduced both short term and long term (Junaid et al., 2020).

Pakistan, being a low-income country, has many people (55 million) living below the poverty line, where a large portion is of the people who work on daily wages. New strategies in order to prevent the widespread has cause many businesses to shut down, affecting people to lose their job security, suddenly going to unemployment, or even reduction the salaries result in the increase of distress hence reducing quality of life (Hussain, 2020). In the present research it was revealed that 70% of the participant's economic income was impacted because of Covid-19. With the sudden changes of lifestyle, Covid-19 has proven to be the biggest threat to person's mental and physical well-being. In accord with other pandemics and epidemics, it is agreed that people have to live with this virus for some time, therefore understanding the psychosocial, quality of life and demographical factors affecting it would help in order to form an effective rehabilitation plan.

Conclusion

It is concluded that Covid-19 has caused drastic changes in the lives of people. Survivors have been struggling with mental health difficulties where they face symptoms of depression, anxiety, stress and post-traumatic stress because of which their lowered quality of life is significantly predicted. The majority of participants experienced mild to moderate levels of psychological distress and scored higher than cutoff scorers of PTSS indicating the need to attain

clinical attention. The persistent symptoms of long COVID-19 appear to affect the cognitive and physical function, health-related quality of life, and participation in society.

Limitations and Suggestions

One of the limitations of the present research was that the study was cross sectional, where the causality of the variables was not addressed. Self-reporting questionnaires were administered online which inhibits the exclusion of response biases. Due to lack of time, a limited number of participants selected which inhibits the generalizability of results. Another limitation of the research is that the data was collected during the time when the cases were still rising, now the second wave is in progress. Another limitation is that the study population did not include children, which should be investigated further in future research. In future it is suggested that comparative and longitude researches might give better inferences on the impact of Covid-19 on psycho-social functioning. Mixed research designs are also suggested in order to gather the in-depth information. Future comparison studies are required to determine the most efficient early therapies that could reduce psychiatric morbidity in COVID-19 survivors.

References

Alshehri, F. S., Alatawi, Y., Alghamdi, B. S., Alhifany, A. A., & Alharbi, A. (2020). Prevalence of post-traumatic stress disorder during the Covid-19 pandemic in Saudi Arabia. *Saudi Pharmaceutical Journal*. (In-press). https://doi.org/10.1016/j.jsps.2020.10.013

Arvidsdotter, T., Marklund, B., Kylén, S., Taft, C., & Ekman, I. (2016). Understanding persons with psychological distress in primary health care. *Scandinavian Journal of Caring Sciences*, *30*(4), 687-694. https://doi.org/10.1111/scs.12289

Asim, M., Teijlingen, E. V., & Sathian, B. (2020). Coronavirus disease (COVID-19) and the risk of post-traumatic stress disorder: A mental health concern in Nepal. *Nepal Journal of Epidemiology, 10* (2), 841-844. https://doi.org/10.3126/nje.v10i2.

Batawi, S., Alraddadi, B., Tarazn, N., Al-Raddadi, R., Sindi, A., & Uyeki, T. (2016). Quality of life among survivors of Middle East respiratory syndrome corona virus. In *Open Forum Infectious Diseases*, *3*(1), 664-668.

Blevins, C. A., Weathers, F. W., Davis, M. T., Witte, T. K., & Domino, J. L. (2015). The posttraumatic stress disorder checklist for DSM-5 (PCL-5): Development and initial psychometric evaluation. *Journal of Traumatic Stress*, *28*(6), 489-498. https://doi.org/10.1002/jts.22059

Bo, H. X., Li, W., Yang, Y., Wang, Y., Zhang, Q., Cheung, T., ... & Xiang, Y. T. (2020). Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. *Psychological medicine*, 1-2. https://doi.org/10. 1017/S0033291720000999

Brooks, S. K., Dunn, R., Amlôt, R., Rubin, G. J., & Greenberg, N. (2018). A systematic, thematic review of social and occupational factors associated with psychological outcomes in healthcare employees during an infectious disease outbreak. *Journal of Occupational and Environmental Medicine*, *60*(3), 248-257. https://doi.10.1097/JOM.0000000000001235

Chen, K. Y., Li, T., Gong, F., Zhang, J. S., & Li, X. K. (2020). Predictors of health-related quality of life and influencing factors for COVID-19 patients, a follow-up at one month. *Frontiers*

in Psychiatry, *11*, 668-674. https://doi.10.3389/fpsyt.2020.00668

Chen, B., Wang, Y., Yang, T., Li, C., Xu, C., Shen, Y., ... & Zou, J. (2020). Mental health among COVID-19 survivors and healthcare workers exposed to COVID-19 in Wuhan, China: A cross-sectional study. *Authorea Preprints*. https://doi.org/10.21203/rs.3.rs- 30351/v1.

Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects of COVID 19 pandemic in dail life. *Current Medicine Research and Practice*, *10*(2), 78-79. https://doi.org/10.1016/j.cmrp.2020. 03.011

Hall, R. C., Hall, R. C., & Chapman, M. J. (2008). The 1995 Kikwit Ebola outbreak: Lessons hospitals and physicians can apply to future viral epidemics. *General Hospital Psychiatry*, *30*(5), 446-452. https://doi.org/10.1016/j.genhosppsych.2008.05.003

Herrman, H., & Chopra, P. (2009). Quality of life and neurotic disorders in general healthcare. *Current Opinion in Psychiatry, 22*(1), 61–68. https://doi.org/10.1097/yco.0b013e32831a4750

Hussain, L. (2020). *Mental health crises in Pakistan during Covid-19 pandemic*. The British Medical Journal. https://www.bmj.com/content/369/bmj.m1994/rr-0

Junaid, K., Ali, H., & Nazim, R. (2020). The psychological impact of COVID-19 pandemic on Pakistani population: Managing challenges through mental health services. *Annals of King Edward Medical University*, *26*, 291-293. https://doi.org/10.15761/CCRR.1000482

Kharshiing, K. D., Kashyap, D., Gupta, K., Khursheed, M., Shahnawaz, M. G., Khan, N. H., ... & Rehman, U. (2020). Quality of life in the covid-19 pandemic in India: Exploring the role of individual and group variables. *Community Mental Health Journal*, 1-9.

Khan, M., Khan, H., Khan, S., & Nawaz, M. (2020). Epidemiological and clinical characteristics of coronavirus disease (COVID-19) cases at a screening clinic during the early outbreak period: a single-centre study. *Journal of Medical Microbiology*, *69*(8), 1114-1123.

Lee, T. M. C., Chi, I., Chung, L. M., & Chou, K. L. (2006). Ageing and psychological response during the post-SARS period. *Aging and Mental Health*, *10*(3), 303-311. https://doi.org/10.1080/13607860600638545

Liang, L., Gao, T., Ren, H., Cao, R., Qin, Z., Hu, Y., ... & Mei, S. (2020). Post-traumatic stress disorder and psychological distress in Chinese youths following the COVID-19 emergency. *Journal of Health Psychology*, *25*(9), 1164-1175. https://doi.org/10.1177/1359105 320937057

Lovibond, S. H., & Lovibond, P. F. (1996). *Manual for the Depression Anxiety Stress Scales*. Psychology Foundation of Australia.

Mak, I. W. C., Chu, C. M., Pan, P. C., Yiu, M. G. C., & Chan, V. L. (2009). Long-term psychiatric morbidities among SARS survivors. *General Hospital Psychiatry*, *31*(4), 318-326. https://doi.org/10.1016/j.genhosppsych.2009.03.001

Majeed, S. ., & Ashraf, M. . (2020). Psychological Impacts of Social Distancing During COVID-19 Pandemic in Adolescents of Lahore, Pakistan. *Annals of King Edward Medical University*, *26*(Special Issue), 165-169. Retrieved from https://www.annalskemu.org/journal/index.php/annals/article/view/3631

Mukhtar, S. (2020). Pakistanis' mental health during the COVID-19. *Asian Journal of Psychiatry*. *51*,102127. https://doi.org/10.1016/j.ajp.2020.102127

Ramírez, L. P. G., Arriaga, R. J. M., Hernández-Gonzalez, M. A., & De la Roca-Chiapas, J. M. (2020). Psychological distress and signs of post-traumatic stress in response to the COVID-19 health emergency in a Mexican sample. *Psychology Research and Behavior Management*, *13*, 589-597.

Rehman, U., Shahnawaz, M. G., Khan, N. H., Kharshiing, K. D., Khursheed, M., Gupta, K., ... & Uniyal, R. (2020). Depression, anxiety and stress among Indians in times of Covid-19 lockdown. *Community Mental Health Journal*, 1-7. https://doi.org/10.1007/s10597-020-00664-x

Salman, M., Asif, N., Mustafa, Z. U., Khan, T. M., Shehzadi, N., Hussain, K., ... & Khan, M. T. (2020). Psychological impact of COVID-19 on Pakistani university students and how they are coping. *medRxiv*. https://doi.org/10.1101/2020.05.21.20108647

Sandesh, R., Shahid, W., Dev, K., Mandhan, N., Shankar, P., Shaikh, A., & Rizwan, A. (2020). Impact of COVID-19 on the mental health of healthcare professionals in Pakistan. *Cureus*, *12*(7), 1-5. https://doi.org/10.7759/cureus.8974

Schnurr, P. P., Hayes, A. F., Lunney, C. A., McFall, M., & Uddo, M. (2006). Longitudinal analysis of the relationship between symptoms and quality of life in veterans treated for posttraumatic stress disorder. *Journal of consulting and clinical psychology*, *74*(4), 707-713. https://doi.org/10.1037/0022-006X.74.4.707.

Shahid, R., Umar, M., Zafar, R. B., Zeb, S., Ambreen, S., & Akram, M. O. (2020). Comorbidity of COVID-19 related fatalities in tertiary care hospitals of Rawalpindi, Pakistan. *Journal of Rawalpindi Medical College*, *24*(1), 32-36. https://doi.org /10.37939/jrmc.v24iSupp-1.1422

Sharif, N., Bukhari, N., Yousfani, Z. A., Saleem, A., Arif, A., Abbas, H., & Khan, M. A. (2020). Gender and age factors in COVID-19 patients in Punjab, Pakistan; A cohort study. *Anaesthesia, Pain & Intensive Care*, *24*(4), 435-439.

Shehryar, M., Shahid, R., Zeb, S., Umar, M., Raza, M. R., Ahmad, T., ... & Ahmad, H. (2020). Gender based comparison of psychological distress among Covid-19 patients at Rawalpindi institute of urology & transplantation Pakistan. *Journal of Medical Case Reports and Reviews*, *3*(06), 673-677.

Tan, B. Y., Chew, N. W., Lee, G. K., Jing, M., Goh, Y., Yeo, L. L., ... & Shanmugam, G. N. (2020). Psychological impact of the COVID-19 pandemic on health care workers in Singapore. *Annals of Internal Medicine, 173* (4), 317-320. https://doi.org/10.7326/m20-1083

Tansey, C. M., Louie, M., Loeb, M., Gold, W. L., Muller, M. P., Jager, D. J., ... & Rachlis, A. R. (2007). One-year outcomes and health care utilization in survivors of severe acute respiratory syndrome. *Archives of Internal Medicine*, *167*(12), 1312-1320.

Van der Velden, P. G., Slachtofferhulp, C. C. F., Das, M., Van Loon, P., & Bosmans, M. (2020). Anxiety and depression symptoms, and lack of emotional support among the general population before and during the COVID-19 pandemic. A prospective national study on prevalence and risk factors. *Journal of Affective disorders*.

https://doi.org/10.1016/j.jad.2020.08. 026

Wang, K. T. (2015). *Research Design in Counseling*. Nelson Education.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, *17*(5), 17- 29. https://doi.org/10.3390/ijerph17051729

Wang, C. H., Tsay, S. L., & Elaine Bond, A. (2005). Post-traumatic stress disorder, depression, anxiety and quality of life in patients with traffic-related injuries. *Journal of advanced nursing*, *52*(1), 22-30. https://doi.10.1111/j.1365-2648.2005.03560.x

Weathers, F.W., Litz, B.T., Keane, T.M., Palmieri, P.A., Marx, B.P., & Schnurr, P.P. (2013). *The PTSD Checklist for DSM-5 (PCL-5).* Retrieved from www.ptsd.va.gov.

Whoqol Group. (1998). Development of the world health organization WHOQOL-BREF quality of life assessment. *Psychological Medicine, 28*(3), 551-558.

World Health Organization (WHO, 2020) Novel coronavirus (2019-nCoV) situation reports.

Wu, P., Fang, Y., Guan, Z., Fan, B., Kong, J., Yao, Z., ... & Hoven, C. W. (2009). The psychological impact of the SARS epidemic on hospital employees in China: Exposure, risk perception, and altruistic acceptance of risk. *The Canadian Journal of Psychiatry*, *54*(5), 302-311.

Xu, J., Zheng, Y., Wang, M., Zhao, J., Zhan, Q., Fu, M., ... & Cheng, Y. (2011). Predictors of symptoms of posttraumatic stress in Chinese university students during the 2009 H1N1 influenza pandemic. *Medical Science Monitor: International Medical Journal of Experimental and Clinical Research*, 17*(7), PH60*