An Assessment of Psychological Payoff by COVID-19 on the Citizens of Karachi, Pakistan

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Abstract

Covid, a dangerous infection, was explored in 2019 with first affected patient was appeared in Wuhan, China. It was then spread into the entire world, influenced psychological well-beings of populace. A cross-sectional study was carried out in Karachi to evaluate the psychological effects of COVID -19. In the current controlled study, 200 participants including house wives, business peoples, and students of various demographic details were included. It has been concluded that majority of the participants 85.40% was not affected by the virus, relatives of 69.75% suffered from the virus, 90.91% participants doesn't experience any other mental health problem before corona, 76.2% faced affected mental health. 58.9% participants knew the symptoms of COVID-19. 48.3% participants did not face any effects of the pandemic on family relationship but 48.3% faced mental illness due to social distancing. 50.6% faced disturbed social life due to quarantine and 17.9% participants faced lack of confidence after getting infected and unemployment was experienced to be the major cause of depression. This study strengthens the fact that the virus is expand by foreigners. 68.2% participants are more anxious during the 1st wave of corona, and due to the fear they even detached themselves to visit the doctor as they think this will provoke the virus spreading. Impact of COVID-19 on education system is not cleared as some believes that it badly impacts the education while other are satisfied with the online system. The study suggest that the COVID-19 is dangerous and has bad impact on mental health.

Keywords: COVID-19, infection, physiological well-being, isolation

Introduction

Corona is the type of virus that pop up in the map of world on 2019, December; with etiology that no one knows; in municipality of China called Wuhan. This pandemic entraps the lives of more than fifty thousand people and a million populations were effected (Datu and Fincham 2021, Grafton, Parslow *et al.* 2020). Corona is from a category of virus that belongs to family *Coronaviridae* (Özkaya and Izgi 2021, Zhao, Stone *et al.* 2020). These are Single stranded RNA virus and highly susceptible towards mutation hence diversified enough to spread (Cui, Heal *et al.* 2020, Buso, De Caprariis *et al.* 2020) and were observed in bats, wild birds, snakes, pangolins and ultimately to humans because of the contaminated meat that was sold in China's market. There are many strand of this virus, specifically of which the SARS-CoV-2 originates COVID-19 (Elgazzar 2021, Bilen and Matros 2021). It involves severity of illness that turns to conditions like MERS (Middle East Respiratory Syndrome) and SARS (Severe Acute Respiratory Syndrome) respectively (Baker 1998). The history behind this virus is discrete but although it was recognized somehow in the year 1931 in newly born chicks by Schalk and Hawn. In 1936 these were identified as two different strains of viruses by Beach & Schalm. These were further cultivated in 1937 by Fred Beaudette & Hudson (Galandra, Cerami *et al.* 2020). Then in 1951, Andrewes and Gledhill

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extracted a unique type of virus from mice which is now commonly called as the 'corona virus'. Later in 1965 & 1967 the causes including cold and respiratory system infection were examined that didn't match with any previous human disease causing virus. While in 1968, Almeida & Tyrell with a crew of colleagues disclosed that it was a group of virus that not only does avian bronchitis but respiratory track dysfunction in human and marine hepatitis too (Daniel 2020, Pfefferbaum and North 2020). And that was the first ever received example of the corona virus (Fraser, Brierley *et al.* 2021).

The study is aimed to assess effects of COVID-19 on the mental health of psychological well-being as well as those who suffered from COVID-19 using questionnaire that was distributed among the residents of Karachi, Pakistan.

Methodology

This survey was conducted to evaluate the psychological aspects of healthy individuals as well as who are suffered from COVID-19 using questionnaire that was distributed among the citizens of Karachi, Pakistan to obtain the under-mentioned information.

1- Demographic information questionnaire which includes age, gender, occupation and educational status.

2- Questionnaire based on psychological impact of COVID-19 comprises of 21 open and close ended multiple choice questions and checkbox questions.

Total 200 responses were recorded from both male as well as female participants. The data was collected from different areas of Karachi in which age of 179 participants were belonging to the age group below 50 years while 21 participants were of above 50 years. Responses were collected from majority of students, undergraduates, pharmacist, doctors, teachers, housewife and businessman. The main question from participants was designed to explore whether they had suffered from COVID-19 or not.

Statistical Analysis:

Data was recorded, and analyzed statistically via Microsoft excel. Description data were presented in frequencies and percentages in Bar chart form for better understanding.

Result and discussion

Demographic details of participants

Table 1: Background Characteristics

Variable		Percentage
Age groups	Less than 25years	17%
	25-35	60%
	36-50	23%
Gender	Male	50%
	Female	50%
Residency	Karachi	100%

The number of participants in this study was 200 from different areas of Karachi, Pakistan. The age range of the most participants was between 25 to 50 years. The percentage of female and male participants was 50%. Majority of

the participants were office going while few were housewives and students (Table:1).
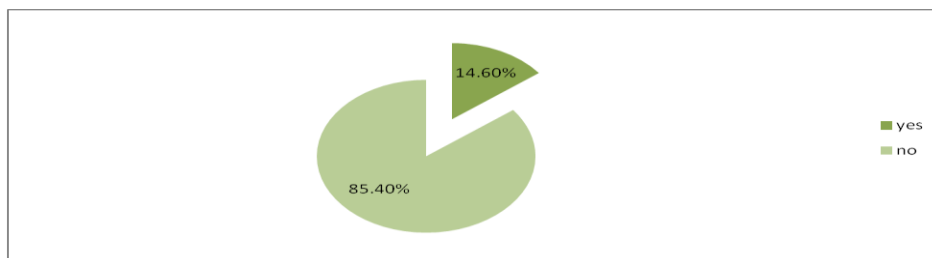
Responses

Figure 1: Participants Infected with COVID-19

Figure-1 shows the percentage of participants infected by COVID-19. The participants were asked if they are infected with COVID-19 or not. Out of 200, 85.4% participants were not affected by COVID-19 infected whereas 14.6% were affected by COVID-19.
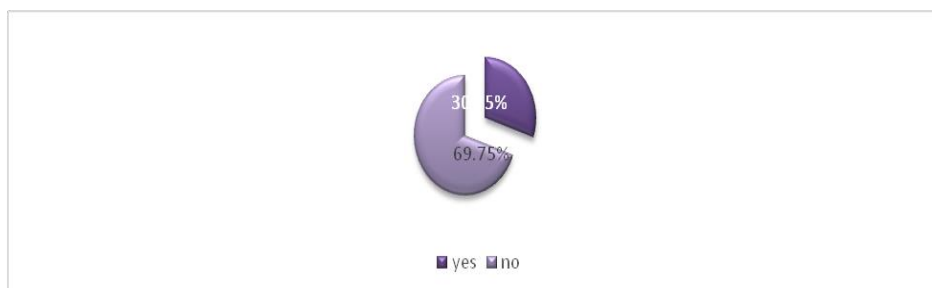

Figure 2: Family Members or Close Relative Infected with COVID-19

The participants were asked whether any of the family member or close relative was infected with COVID-19, and the response are expressed in figure 2. Out of 200, 30.25% participants have replied with Yes and 69.75% with No.
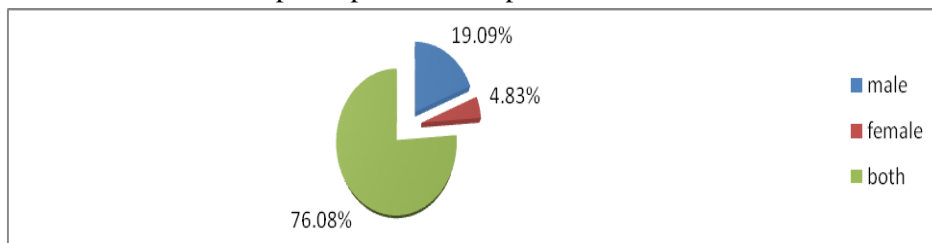
Figure 3: Gender Specific Effects of COVID-19

Results of gender specific effects of COVID-19 have been displayed in Figure 3. According to the responses received from the participants both male and female were almost found equally prone to COVID-19. 76.08% participants responded as both are equally prone, 19.09% replied that males are more prone while 4.83% think females are more prone to COVID-19. These responses are opposing to the evidences suggested that women are vastly more affected by

the rise in COVID-19 because they are more sensitive and less strong than man and in western countries they are working women, not a house wife. They spent more time outside their home as compare to women of the eastern countries (Alon, Doepke *et al.* 2020).
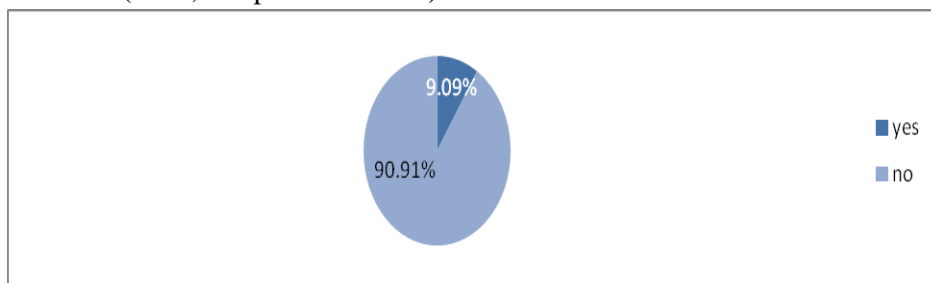

Figure 4: Statistics of Mental Health Conditions

Have you ever diagnosed with any other mental health condition? This question was asked to investigate whether the mental health of participants was affected by COVID-19 or they already have a mental illness. Results are expressed in figure 4. Out of 200, most of the participants (90.91%) haven't exposed to any mental illness before COVID-19. Only 9.09% participants were found to have the CNS disorders like anxiety and depression apart from COVID-19.
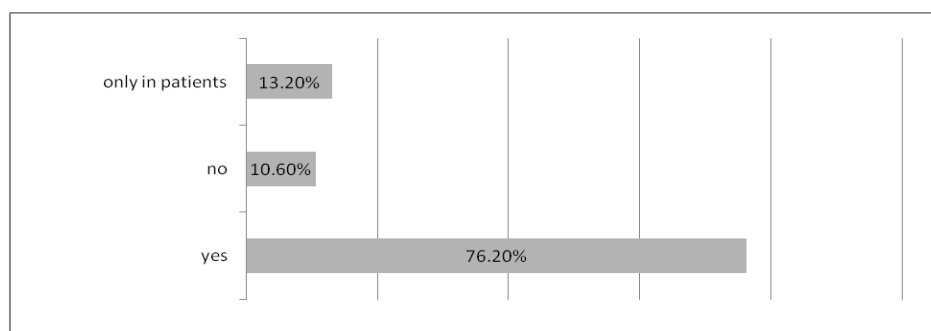

Figure 5: COVID-19 Pandemic Effects on Participants Mental Health?

Participants were asked that whether the COVID-19 pandemic effects on mental health? Statistical analysis of the responses of the participants are expressed in figure 5. Out of 200, 76.2% participants faced anxiety or depression after COVID-19 infection, 10.6% denied it and 13.2% participants think that it only affects patient's mental health.
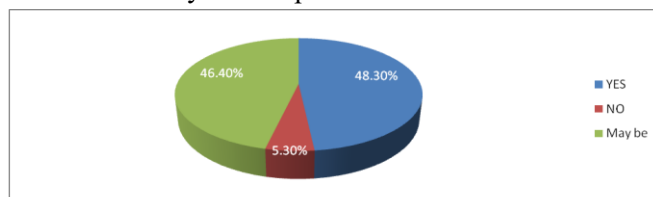

Figure 6: Effects of Social Malfunctioning on Mental Health

In COVID-19, people are imprisoned to their home and cannot go to any social gathering, therefore they were asked about social distancing. Can social malfunctioning cause serious mental illness? This question was asked to participants and results are expressed in figure-6. Out of 200 participants 48.3% were agreed to the statement that mental illness is cause by social distancing, 46.4% were not fully sure and only 5.3% participants have denied it.
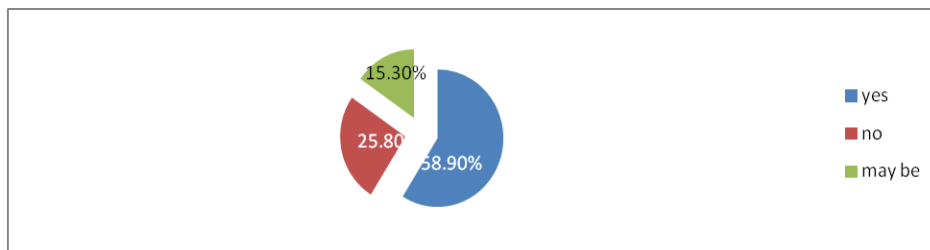

Figure 7: Anxiety and Fear of Death with Common Cold

Participants were asked if they have ever confused between common cold and corona or feel anxiety and fear of death even after having common cold. And the responses are expressed in Figure 7. It shows that most of the participants have better understanding to differentiate the COVID-19 and normal cold symptoms as 58.9% can differentiate and 15.3% participants cannot. Whereas, 25.8% participants felt anxiety and depression even after having common cold.
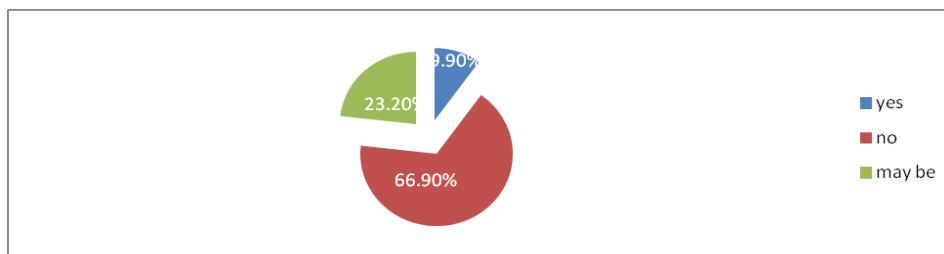

Figure 8: COVID-19 and Smoking Habit

Figure 8 shows the responses of the question "Does COVID-19 associated with smoking habit?" The participants were found to be unaware of the fact that smoking damages lungs, because 66.9% did not think that smoking is associated with COVID-19, Only 9.9% participants agreed that smoking is associated with corona and 23.2% were not sure about it.
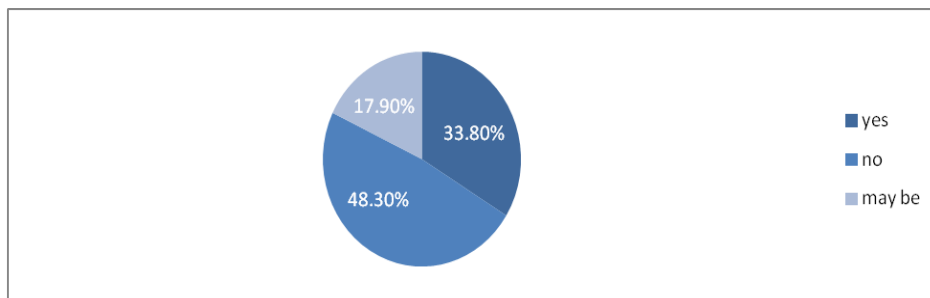

Figure 9: Effects of COVID-19 on Personal and Family Relationship?

Does COVID-19 affect personal and family relationship? This was asked to participants and results are expressed in Figure 9. The family and personal relationship of the most of the participants (48.3%) were not found to be affected by COVID-19, 33.8% were found affected and 17.9% of the participants were not sure about it.
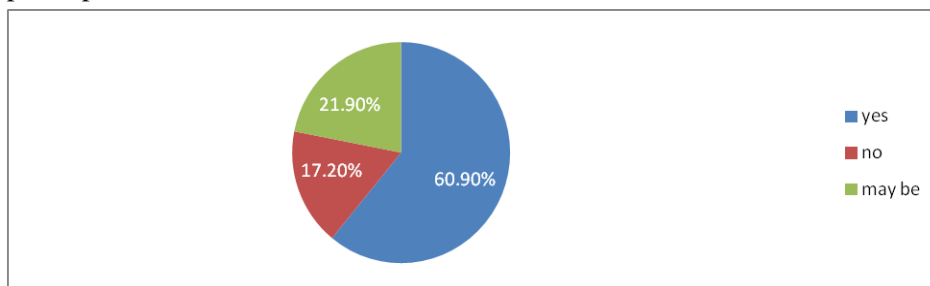

Figure 10: Corona Spread due to Foreigners?

Another question "Does corona spread due to foreigners?" was asked to participants and the responses results are expressed Figure 10. Many of the participants (60.90%) agreed that corona was spread due to foreigners and 17.2% participants denied it, while 21.90% participants were confused and were not fully sure about it.
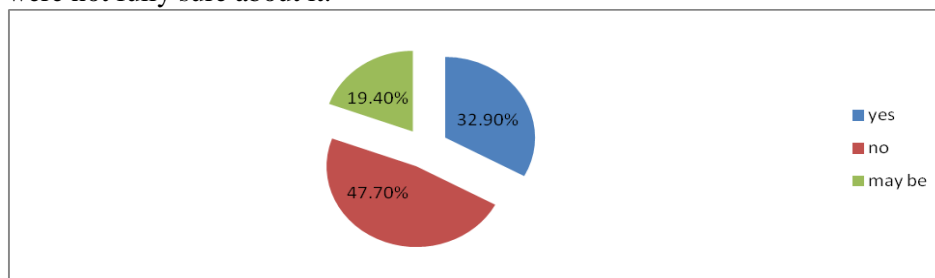

Figure 11: Post COVID-19 Psychological Changes in Infected Individuals

"Have you seen post COVID-19 psychological changes in infected individuals?" was asked to participants and the responses are expressed in Figure 11. According to major responses i.e. 47.7% participants haven't faced any post COVID psychological changes, 32.9% participants faced psychological changes and 19.4% were not sure about it.
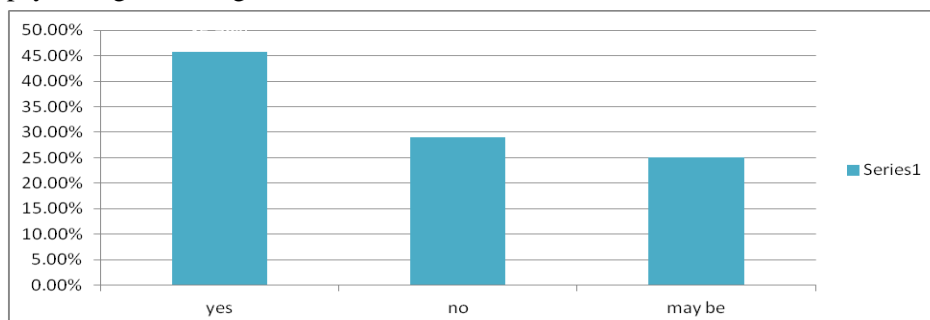

Figure 12: Quarantine and Suicidal or Depressive Behavior

Has quarantine provoked more suicidal or depressive behavior in individuals rather than preventing them from this pandemic? This was asked to participants and the responses are expressed in Figure 12. Many of the participants (45.7%) agreed that quarantine has provoked more suicidal or depressive behavior in individuals rather than preventing them from this pandemic. This may be due to the reason that many of the participants become jobless, facing huge loss of education and high expenses whereas 29.1% participants were not agreed and 25.2% participants were not sure.
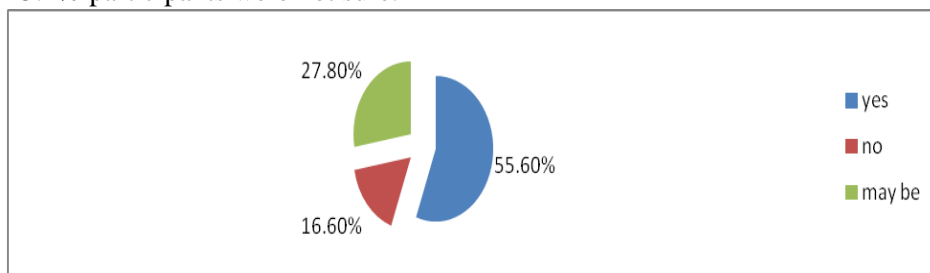

Figure 13: Repeated appearance of COVID-19 in Patients

Can COVID-19 reappear in patients who have already got infected with it? This question was asked to the participants and the results show that 55.6% of the participants who recovered from corona get infected again (Figure 13). This may be due to the reason patients affected by COVID-19 become less immune/immunosuppressive that disturbs physiology and they become more prone to infections again. In 16.6% participants, corona was not re-occur because gradual production of antibodies may occur after first exposure. However, 27.8% participants were not fully sure about the happening of infection again in recovered corona patients.
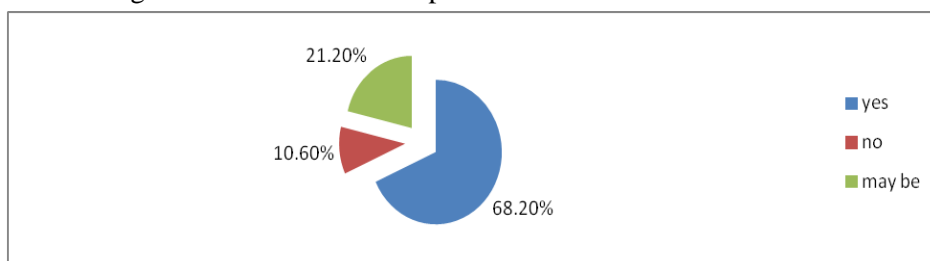

Figure 14: Comparison of Patients Having Anxiety in 1st wave of COVID-19 to 2nd phase

Participants were asked another question that whether patients have faced more anxiety in 1st wave of COVID-19 than in the 2nd phase and the results are expressed in Figure 14. Most of the participants (68.2%) faced more anxiety in the 1st wave of COVID-19 than 2nd wave. This may be due to the reason that in 1st wave, the COVID-19 infection was very new to the human body and no antibodies were present in the human body to protect it from the infection. In addition, they were also not aware of the safety protocols to protect themselves from this life threatening infection. On the other hand, awareness was increased before the second wave, therefore, lesser number of patients faced anxiety of

COVID-19. 10.6% of the participants denied it and 21.2% participants were not sure about it.
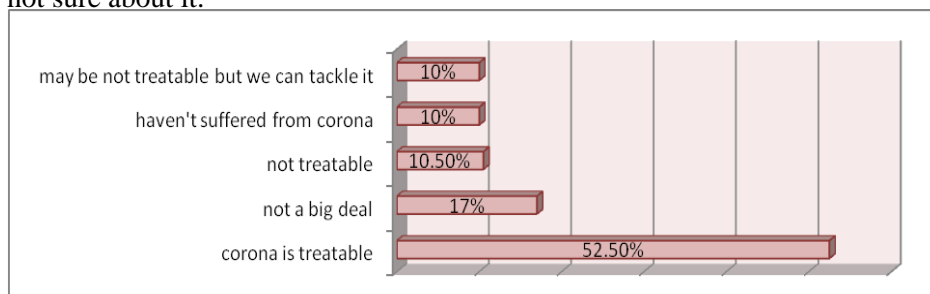

Figure 15: Nature of COVID-19 it terms of Treatment

If you have suffered from corona then what do you think corona is treatable, it's not a big deal, not treatable, or others? This question was asked to participants and the responses are expressed in figure 15. It was as open ended question in which 52.5% participants who were recovered from corona replied that corona is treatable, 17% participants replied that corona is not a big deal. Such respondents may have high immunity and recovered from it very effectively. 10.5% participants think that corona is not treatable, as it is a life threatening infection. While 10% participants were not suffered from corona and 10% think corona is not treatable.
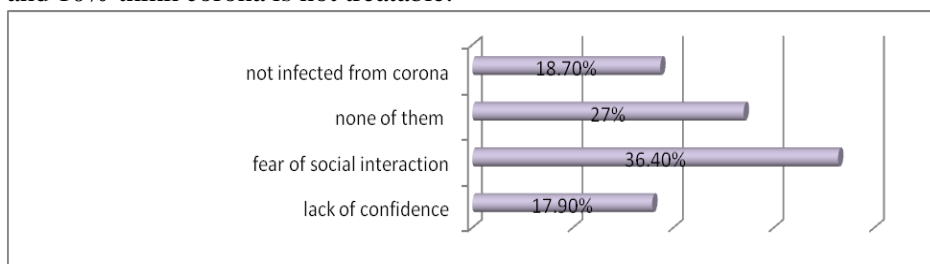

Figure 16: Level of Confidence after Recovery

After recovering from corona did you feel lack of confidence or fear of social interaction or others? The responses are expressed in figure 16. It was also an open ended question in which 17.9% participants faced lack of confidence after getting infected, 36.4% face fear of social interaction. While 27% participants haven't feel anything after recovery and 18.7% participants were not suffered from corona.
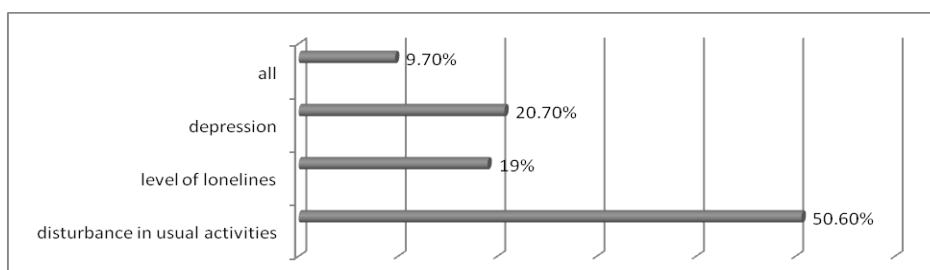

Figure 17: Effects of Quarantine

This was asked to participants that quarantine has caused level of loneliness or disturbance in usual activities or depression or others? Results are expressed in figure 17. It was an open ended question in which it was found that quarantine has disturbed usual activities of 50.6% participants, 19% of the participants felt loneliness in quarantine whereas, quarantine took 20.7% participants to depression and quarantine has affected 9.7% participants' life by all above aspects say.
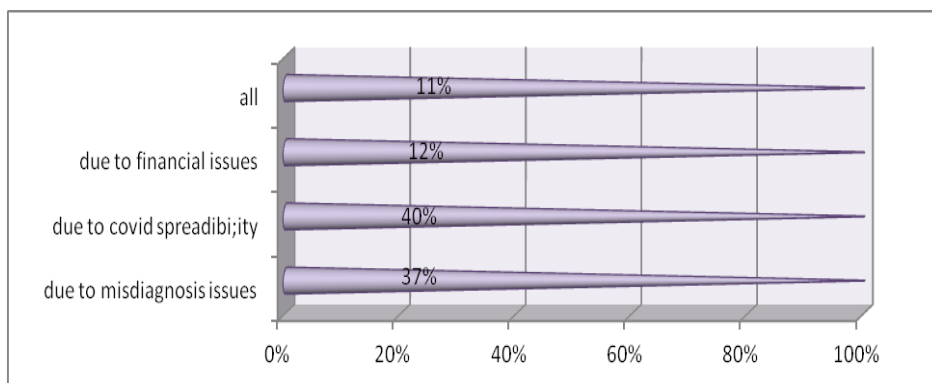

Figure 18: Participants' Opinion about Visiting Hospital

Participants avoided going to hospital because of misdiagnosis issues or due to fear of corona spreadability or due to financial issues or others? Another open ended question and replies are expressed in Figure 18. 37% participants avoided visiting hospital because of misdiagnosis issues, 40% avoided because of COVID-19 spreadibility, 12% participants were facing financial issues and 11% participants avoided because of all above circumstances.
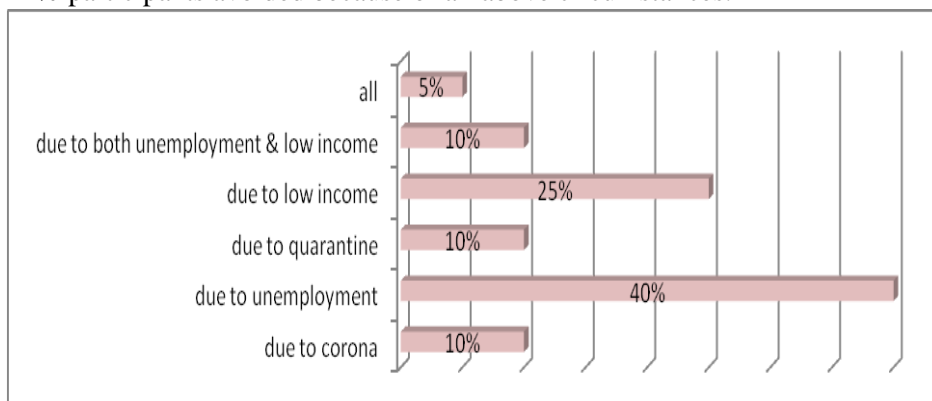

Figure 19: Why COVID-19 Caused depression?

Another open ended question "This pandemic cause depression because of corona or unemployment or quarantine or low income or others?" was responded by the participants (Figure 19). 10% participants had depression due to corona, 40% had due to unemployment, 10% had due to quarantine and 25% participants become depressed by low income. 10% participants think that unemployment and low income depressed them, whereas 5% participants were moved to depression due to all of the above factors.
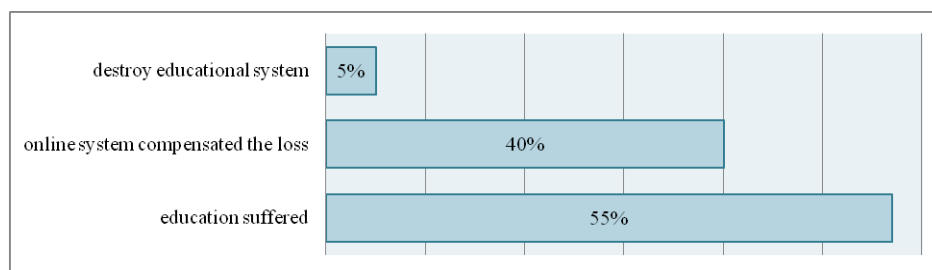
Figure 20: Impact of Pandemic on Education System

What impact of this pandemic on education system? Is education system suffered or online system compensated the loss or others? The responses are expressed in Figure 20. It was an open ended question in which 55% participants think that educational status is suffered in this pandemic, 40% agreed that online system compensated the loss, 5% participants think that this pandemic completely destroyed educational system.
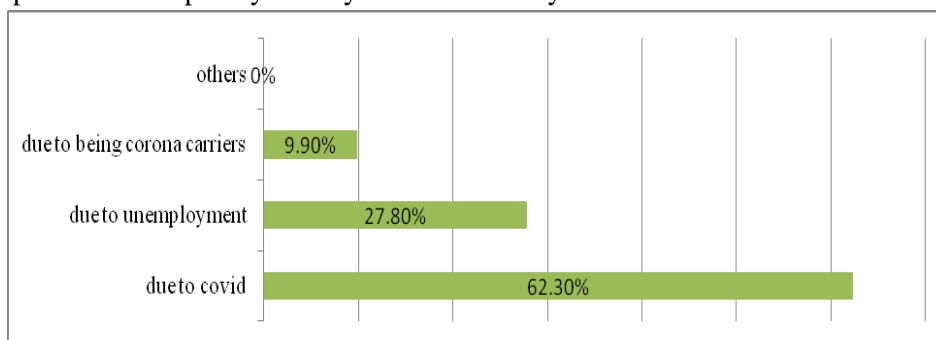

Figure 21: Causes of Deaths in COVID-19 Pandemic

In the last, participants were asked to share their opinion about deaths. Is more patients died because of corona or due to unemployment or due to the thought that corona would spread by them or others? and the results are expressed in Figure 21. In this, 62.3% participants think that major cause of participants' death was due to corona infection, 27.8% participants think of unemployment, 9.9% participants think of the fear that they may become corona carriers and can harmed their love ones.

Conclusion

A cross-sectional study was carried out in Karachi to evaluate the psychological effects of COVID -19. It has been concluded that majority of the participants 85.40% was not affected by the virus, relatives of 69.75% suffered from the virus, 90.91% participants doesn't experience any other mental health problem before corona, 76.2% faced affected mental health. 58.9% participants knew the symptoms of COVID-19. 48.3% participants did not face any effects of the pandemic on family relationship but 48.3% faced mental illness due to social distancing. 50.6% faced disturbed social life due to quarantine and 17.9% participants faced lack of confidence after getting

infected and unemployment was experienced to be the major cause of depression. This study strengthens the fact that the virus is expand by foreigners. 68.2% participants are more anxious during the 1st wave of corona, and due to the fear they even detached themselves to go to see the doctor as they think this will provoke the virus spreading. Its impact on schooling system is not cleared as some believes that it badly impacts the education while other are satisfied to the online system. The survey suggest that the COVID-19 is dangerous and has bad impact on mental health.

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