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Research Article

IMPACT OF COVID-19 ON MENTAL HEALTH OF GENERAL POPULATION

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Abstract:

Introduction: COVID-19 is also known as corona virus and China was the first country to report it in November 2019 as health emergency. World Health Organization (WHO) labelled COVID-19 as pandemic due to its worldwide spread. According to experts, mental health burden due to COVID-19 is going to be far greater than physical health burden itself. Unfortunately, policy makers around the globe are more concerned about the numbers and economy rather than COVID-19 impact on mental health itself. Hence, it is justified to say that there is gross denial of mental health needs in the eyes of policy makers around the globe at moment and this is what governments around the world are going to face very soon.

Aims and Objectives: This study is small effort in this direction to ascertain the extent of this growing problem and make us realize that what we are looking is merely the tip of ice berg and not actual mountain itself.

Materials and Methods: We conducted this cross-sectional study using structured questionnaire-based surveys. Questions were selected by using validated screening tools i.e. PHQ9, GAD7 and modified IES scales. Total participants were 109. 8 submissions were rejected and 101 were considered on merit. Out of which 45 (44.5%) were males and 56(55.44%) were females.

Results: The pandemic of COVID-19 economically affected 29(28.72%) individuals, physically affected 13(12.87%) and mentally affected 59(58.41%). The elaborated data also revealed that pandemic of COVID-19 has different effect on each individual. 59 subjects suffered from anxiety, 22 subjects from sleep disturbance/insomnia and 19 subjects had altered mood levels.

Conclusion: This study found that mental health problems are on rise in general population during public health emergency. Also indicated that low education level, enterprise employment work style, PTSD symptoms and negative coping styles are the main influence factors of the mental health disaster in general population. This study highlights the need for local governments to take appropriate mental health interventions based upon the characteristics of the general population.

Key Words: Mental health; anxiety; COVID-19; depression; insomnia

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INTRODUCTION:

The emergence of outbreaks of various infectious diseases in the history had some deleterious effects on civilizations. The examples of outbreaks include SARS (severe acute respiratory syndrome), Ebola and H1N1 [1]. COVID-19 is also known as Corona Virus and China was the first country to report it as new health emergency in November 2019. World Health Organization (WHO) labelled COVID-19 as pandemic due to its worldwide spread [2].

Till now, COVID-19 is considered as a close relative of SARS with a possible transmission from animals, especially from bats to humans. The comparison of the pandemic of SARS in 2003 can easily be made with the pandemic of Corona Virus in 2019 [3,4]. The first case of COVID-19 was reported on February 26, 2020 in Pakistan. The continuous spread of disease has some serious effects on mental health of general population. The rapid and unchecked spread of COVID-19 enforced the Government of Pakistan to put the country under lockdown [5].

Several studies have suggested various strategies to counteract the emergency situation created by the pandemic of COVID-19 [6]. The previous recorded pandemics in the history including SARS, Ebola and H1N1 had caused various mental health conditions in general population [7]. Hence we expect the same with corona (covid-19) aftermath. As we know from history that it is in habit of repeating itself. As already mentioned experts believe that mental health burden due to COVID-19 is going to be far greater than physical health burden itself. Unfortunately, policy makers around the globe are in gross denial of mental health needs following this health emergency. This is what we anticipated and this is the reason we are working and publishing this research.

Various studies have reported the symptoms and possible outcomes of COVID-19. However, there are very few studies indicating the real life impact of COVID-19 menace on mental health of general population. So, this study is small effort in this direction to ascertain the extent of this growing problem and make us realize that what we are looking is merely the wishful thinking illusion and not actual reality itself.

MATERIALS AND METHODS:

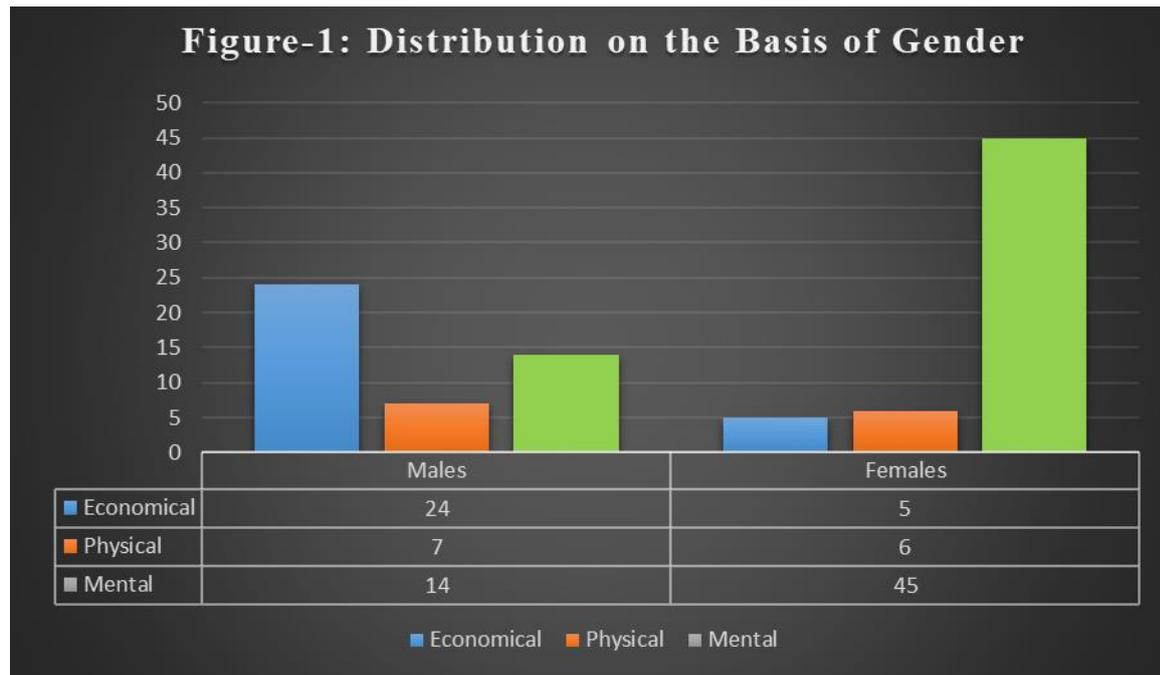
This study was conducted at the various community avenues i.e. clinic waiting areas, shopping malls, college/university campuses across Lahore, Pakistan, within a period of 2 months from June 15, 2020 to August 15, 2020. We conducted this cross sectional study by using questionnaire based surveys. Questions were selected from validated screening tools i.e. PHQ9 (Patient Health Questionnaire), modified IES (Impact of Event Scale) and GAD7 (Generalized Anxiety Disorder-7) scales [9-11]. Questionnaire was printed in both English and Urdu language for the convenience of enrolled individuals.

Majority of the participants of this study were from Punjab (Lahore). Questionnaires were distributed manually and to make it unbiased research, random population sampling was done. Total 109 questionnaires were distributed among general population and outdoor patients. 8 were incomplete and hence, rejected. So, 101 were left appropriate and considered, making valid response rate more than 92.5%. Out of which 45(44.5%) were males and 56(55.44%) were females.

The age of enrolled subjects ranging from 20-75 years. Individuals having age less than 21 years and more than 75 years were excluded from study. Only single and married individuals were part of this study. The divorced patients were also not included. The patients suffering from DM, cirrhosis, renal failure and any systemic illness were eliminated from study. Patients with any type of physical disability were not a part of study. The data were analyzed by using SPSS (23.0).

RESULTS:

Among the total 101 enrolled individuals, there were 45 males and 56 females. The pandemic of COVID-19 economically affected 29(28.72%) individuals, physically affected 13(12.87%) and mentally affected 59(58.41%). The economically effected individuals comprised of 24 males and 5 females and the physically effected individuals had 7 males and 6 females. While, among the mentally effected individuals, the representation of gender was opposite with more females (45) and less males (14). This is depicted in **Figure-1** and **Table-1**.



The occupation of economically effected individuals varied greatly. The male population that was economically affected includes 8 teaches, 6 laborers, 6 shopkeepers, 3 businessmen and 1 farmer. While, among the economically effected females, there were 2 teachers and 3 house wives. The representation of economically, mentally and physically affected individuals in relation to various age groups and marital status is illustrated in **Figure-2** and **Table-1**.

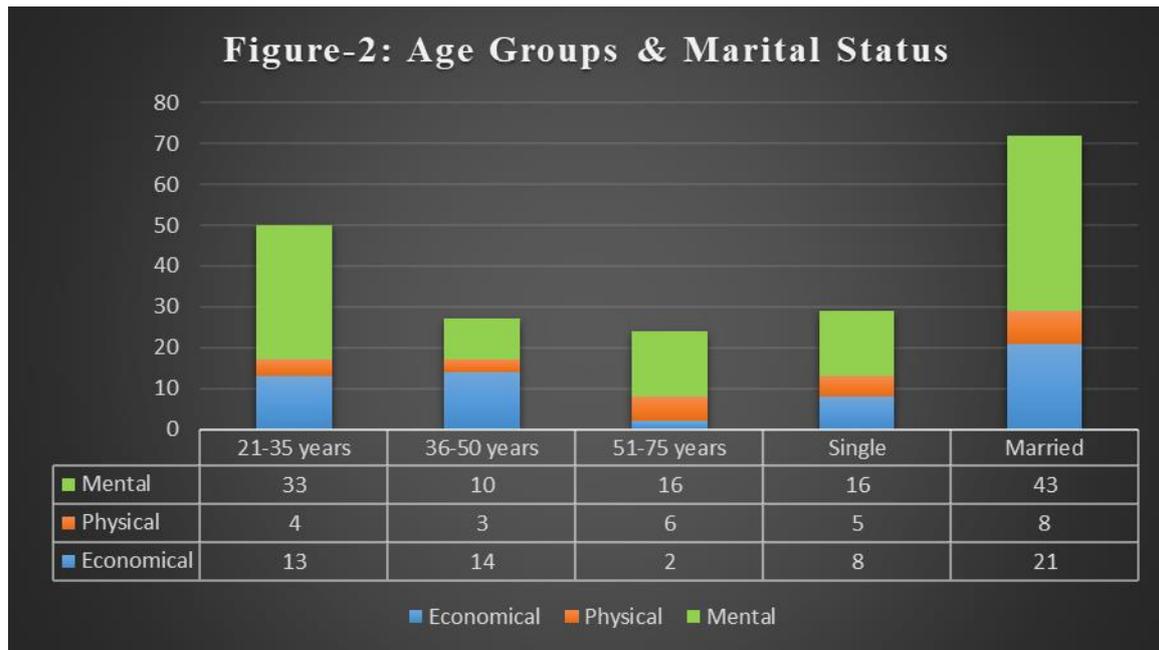
The data collected from 101 individuals revealed that 19 subjects were already suffering from various mental conditions i.e. Generalized Anxiety Disorder, Panic Attacks and Depression. Among these 19 individuals, 17 subjects reported exacerbation in their previous mental conditions during the pandemic of COVID-19. This is shown in **Table-2**.

Table-1: Effect of COVID-19 in Relation to Gender, Age and Marital status

Gender, Age groups and Marital status	Effect of COVID-19			
	Economical	Physical	Mental	Total
Males	24 (23.76%)	07 (6.93%)	14 (13.86%)	45 (44.55%)
Females	05 (4.96%)	6 (5.94%)	45 (44.55%)	56 (55.45%)
21-35 years	13 (12.87%)	04 (3.96%)	33 (32.67%)	50 (49.50%)
36-50 years	14 (13.86%)	03 (2.97%)	10 (9.90%)	27 (26.73%)
51-75 years	02 (1.99%)	06 (5.94%)	16 (15.84%)	24 (23.77%)
Single	08 (7.93%)	05 (4.95%)	16 (15.84%)	29 (28.72%)
Married	21 (20.79%)	08 (7.92%)	43 (42.57%)	72 (71.28%)

Table-2: Effect of COVID-19 on Previous Medical Conditions

Individuals already suffering from mental conditions	Previous mental conditions	Frequency (%)	Effect of COVID-19 on previous mental conditions	Frequency (%) of effect on previous mental conditions
19 (18.81%)	Depression	16 (15.84%)	Exacerbated in 14 out of 16	14 (87.50%)
	Panic Attacks	02 (1.98%)	Exacerbated in 2 out of 2	02 (100%)
	Generalized Anxiety Disorder	01 (0.99%)	Exacerbated in 1 out of 1	01 (100%)



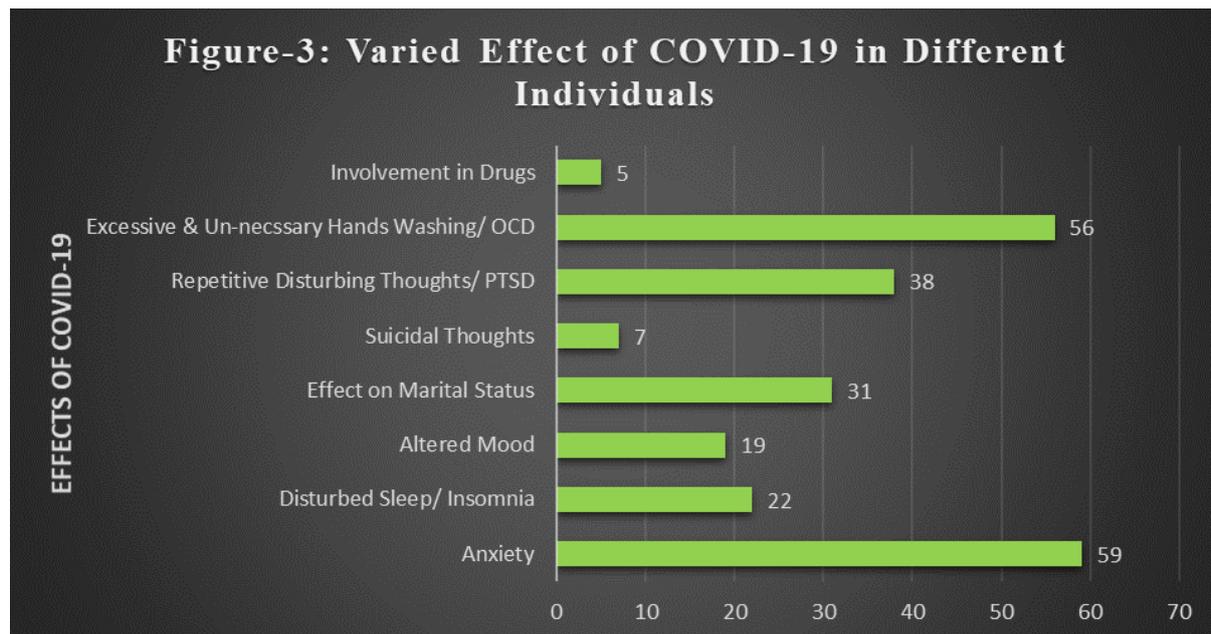
The elaborated data also revealed that pandemic of COVID-19 has different effect on each individual. 59 subjects suffered from anxiety, 22 subjects from sleep disturbance/insomnia and 19 subjects had altered mood levels. Furthermore, COVID-19 also affected the marital status of 31 subjects. We observed domestic violence in 21 individuals and improvement in marital relation in 9 individuals. However, 1 subject suffered from drastic effect of COVID-19, in the form of termination of marriage. Moreover, 7 individuals reported having suicidal thoughts and 5 individuals delineated involvement in drugs after the pandemic of COVID-19. In addition to this 38 subjects outlined having repetitive disturbing thoughts/PTSD and 56

individuals divulged in excessive and unnecessary hands washing behavior/OCD after the pandemic of COVID-19. This is represented in **Figure-3** and **Table-3**.

None of above stated individuals needed any emergency treatment. They were low risk patients mainly. They were referred to appropriate services accordingly for counseling and further management (suicide, PTSD/OCD patients) which is mainly out patients based with regular follow ups. Domestic violence victims were referred to local services and outcome at time of writing are quite encouraging. Legal authorities are working in close contact with them.

Table-3: Varied Effect of COVID-19 in Different Individuals

Effect of COVID-19	Frequency	Percentage %
Anxiety	59	58.41%
Disturbed Sleep/ Insomnia	22	21.78%
Altered Mood	19	18.81%
Effect on Marital Status	31	30.69%
Suicidal Thoughts	07	6.93%
Repetitive Disturbing Thoughts (PTSD)	38	37.62%
Excessive & Un-necessary Hands Washing (OCD)	56	55.44%
Involvement in Drugs	05	4.95%



DISCUSSION:

The pandemic of COVID-19 has almost affected every country on this planet. Since, the pandemic of COVID-19 is still ongoing, there is a possibility that this pandemic will further affect the residents of Pakistan and other countries.

According to the study 58.41% of individuals are affected mentally by COVID-19, where-as, 28.7% participants reported economic effects. Only 12.8% reported physical effects. This study further deduced that the frequency of females (44.55%) suffering from mental effects was higher as compared to the males (13.86%). On contrast 23.76% males reported economically affected where as merely 4.96% females reported economic losses. From the above discussion we can easily conclude that females are more victims of mental ill-effects of COVID-19 and male population suffer mostly from economical disturbance as a result of pandemic of COVID-19 [12]. Physical involvement remained pretty consistent with 6.93% among males and 5.94% among females. Several studies that evaluated the psychological impact of SARS also illustrated the significant effects on physical and mental health of general population [13].

In this study we concluded that young population are more vulnerable to mental and economical stress during the outbreak of COVID-19, in contrast to older population, who mostly suffered from physical effects from the pandemic of Corona Virus. Young population of age groups between 20-50 years showed more negative emotions like anxiety, depression etc. However, older age group between 51-75 years showed relatively less negative emotions. Several other studies conducted in Hong Kong and Taiwan concluded similar relationship

between mental ill-effects and younger age groups stating that younger age population suffer more from mental deleterious effects and older age population bear more physical effects [14,15].

One third of mentally affected patients reported previous psychiatric history. Whereas research concluded that there are 2/3rd new onset cases of mental health issues among general population during this pandemic. Those previously having mental health issues showed 100% increase in stress and anxiety symptoms where as 87.50% of previously diagnosed depression patients reported symptoms worsening. This extended study elaborated the various mental effects of COVID-19 in general population. In this study we found that frequency of anxiety (58.4%) was maximum among general population, while on the other hand, involvement in drugs due to Corona Virus was minimum (4.95%) among various mental effects of COVID-19. This study clearly depicted that the general population of Pakistan suffered from various mental effects at various frequencies including having repetitive disturbing thoughts (PTSD)- (37.62%), disturbed sleep/ insomnia-(21.78%), effect on marital status-(30.69%), altered mood-(18.81%), excessive & un-necessary hands washing (OCD)-(55.44%) and tendency of suicidal thoughts-(6.93%). The similar studies conducted in China and Canada regarding the negative mental effects of COVID-19 and SARS outbreak illustrated that the registered patients of PTSD were (21.5%) and (28.9%) respectively [16,17]. A study conducted in US regarding the mental well-being of general population clearly deduced that overall 32% of general population suffered from anxiety due to pandemic of COVID-19 and had serious negative effects on their mental health [18].

This cross-sectional study clearly represents that alarmingly high percentage of general population is a victim of mental ill-effects of COVID-19. So, interventions are likely to be required in this field to cope up with mental effects of COVID-19.

CONCLUSION:

This study found that mental health problems are on rise in general population during this public health emergency. Also, it indicates that low education level, enterprise employment working style, PTSD symptoms burden and negative coping styles, are the main influence factors of this mental health disaster. This study highlights the need for local governments to take appropriate mental health interventions based upon the characteristics of the general population across Pakistan and rest of the world alike.

Few suggestions which we can propose with this study includes:

- Resilience training for health care staff and those who are on front lines i.e. ambulance crew, Police etc.
- General public awareness via information leaflets, flex boards etc. about available mental health help.
- Use of careful and rumors free social media should be encouraged.
- Establishment of new tele-psychiatric units with more funding of already working services.
- Establishment of outreach community psychiatric health units with emergency response training in cases where immediate life hazard is identified on phone.
- Training updates for those psychiatric health teams, who are already working and trained to cope with more PTSD style work load.

Since COVID-19 is ongoing global menace with second wave yet to strike along with uncertainty about successful vaccination, Authors feel research must go on. As what we see currently is very much tip of iceberg and not true reflection of the problem itself.

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