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STATISTICAL SURVEY OF DEPRESSION ASSOCIATED WITH COVID-19 RELATED ISOLATION AMONG MEDICAL AND NON-MEDICAL POPULATION IN LAHORE

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Abstract

Introduction: Depression is a mental disorder having impact on all age groups. According to the American College of Clinical Pharmacy (ACCP), depression is defined as, “a mental condition characterized by severe feelings of hopelessness and inadequacy, typically accompanied by a lack of energy and interest in life”.

Objective: The basic aim of the study is to find the correlation of depression associated with CoViD-19 related isolation among medical and non-medical population in Lahore.

Methodology: Our study is a prospective cross-sectional study, conducted among the medical and non-medical personnel in Punjab. We took it upon ourselves to conduct the study with a convenient

sample size. The objective of the study was explained to the individuals and those who agreed to it were given the study survey. It was conducted in about 3 months starting from June 2023 to August 2023. The Raosoft sample size calculator was used for calculation of sample size for the study, by keeping a margin of error of 5%, 95% confidence interval, a population size of 40,000 and a 50% response distribution.

Results: The survey results reveal a spectrum of emotional and behavioral responses to the CoViD-19 pandemic. Notably, a substantial portion of respondents express occasional fears of something bad happening (48%) and sometimes feel that others are better off (49%). This reflects heightened anxiety and perceived disparities among some individuals.

Conclusion: It is concluded that the survey presents the multifaceted impact of the CoViD-19 pandemic on individuals' mental health and behaviors. It underscores the urgency of addressing mental health challenges, with concerns about suicide and depression evident among respondents. The mixed perceptions of preventive measures highlight the need for clear and consistent public health communication.

INTRODUCTION

Depression is a mental disorder having impact on all age groups. According to the American College of Clinical Pharmacy (ACCP), depression is defined as, “a mental condition characterized by severe feelings of hopelessness and inadequacy, typically accompanied by a lack of energy and interest in life”. Depressed mood, loss of interest, decreased energy, low self-worth, disturbed sleep or appetite, and poor concentration are a few major symptoms of depression [1]. In a recent World Health Organization (WHO) survey, depression currently ranks third in terms of disability-adjusted life years and will be the leading cause of disease and burden by 2030, surpassing cancer as well as cardiovascular and respiratory disease. Global Burden of Disease estimates the prevalence rate of unipolar depressive episodes to be 1.9% for men and 3.2% for women [2]. In all chronic conditions the concurrence of depression highly affects the quality of care provided by patients themselves and received by others. In typical mild, moderate, or severe depressive episodes, the patient suffers from lowering of mood, reduction of energy, and decrease in activity [3]. Prevalence rates vary by age, peaking in older adulthood (above 7.5% among females aged 55-74 years, and above 5.5% among males). It also occurs in children and adolescents below the age of 15 years, but its rate is less than older age groups. According to a survey the total number of people living with depression in the world is 322 million. The total number of people living with depression increased by 18.4% between 2005 and 2015. To reduce mental health disparities globally, it is important to evaluate the prevalence of depression in the community and variation in prevalence by geographical region, country income, and assessment method. Extreme conditions of depression can lead to suicidal behaviors (e.g., suicidal ideation, suicide attempts, and actual suicide) [4]. About 90% of global suicides are due to individuals who are suffering with severe mental disorders such as depression. The coronavirus disease 2019 (CoViD-19) caused by the novel coronavirus strain SARS-CoV-2, became a globally concerned pandemic. Like previous epidemics and pandemics, the uncertainty surrounding public safety, as well as misinformation about CoViD-19 (particularly on social media) can affect individual’s mental health including depression, anxiety, and stress conditions. It can cause major mental issues in several nations and their respective populations. Additionally, pandemic-related issues such as social distancing, isolation and quarantine, as well as the social and economic fallout can also trigger psychological signs and symptoms such as sadness, worry, fear, anger, annoyance, frustration, guilt, helplessness, loneliness, and nervousness [5].

Age-related onset of major depression may have both clinical and etiological implications. Clinically, earlier age of onset is associated with a worse course of depression with greater chances of recurrence, chronicity, and impairment. The childbearing years in general, and those around pregnancy in particular, have attracted special attention with respect to the occurrence of depression and its

potential effects on children's development [6]. Genetic, neurological, hormonal, immunological, and neuro-endocrinological mechanisms appear to play a major role in the development of major depression, and many of these factors center around reactions to stressors and the processing of emotional information. Etiological processes may be modified by gender and developmental factors. Etiological models for depression are largely diathesis-stress models in which stressful experiences trigger depression in those who may be vulnerable due to biological and psychosocial characteristics and circumstances [7]. Environmental stressors associated with depression include acute life events, chronic stress, and childhood exposure to adversity. Personal vulnerabilities associated with depression include cognitive, interpersonal, and personality factors. Biological, environmental, and personal vulnerabilities interact to contribute to the development of depression and also may be affected by depressive states in a bidirectional process. Depression rarely occurs independent of other psychological disorders, including anxiety, substance abuse, behavioral, and personality disorders, as well as other medical illnesses [8]. Approximately 60 percent of comorbid disorders are anxiety disorders, particularly generalized anxiety disorder, panic disorder, social phobia, and posttraumatic stress disorders. Among patients with anxiety disorders, approximately 30 percent have a comorbid mood disorder. Certain biological, environmental, and personal factors have also been associated with the protection from or the overcoming of risk factors and adverse conditions related to the development of depression. A protective factor is a feature of the individual or the environment that is associated with a decreased probability of the development of a disorder among individuals exposed to factors that increase risk for the disorder. Resilience refers to the processes through which individuals overcome risk factors and adverse conditions and achieve positive outcomes. One of the challenges for researchers has been to avoid the pitfall of defining protective factors and processes of resilience as merely the absence of risk factors. That is, protective factors and evidence for resilience must be found in the presence of risk, not as a consequence of the absence of exposure to risk [9].

OBJECTIVES

The basic aim of the study is to find the correlation of depression associated with CoViD-19 related isolation among medical and non-medical population in Lahore.

METHODOLOGY

Our study is a prospective cross-sectional study, conducted among the medical and non- medical personnel in Punjab. We took it upon ourselves to conduct the study with a convenient sample size. The objective of the study was explained to the individuals and those who agreed to it were given the study survey. It was conducted in about 3 months starting from June 2023 to August 2023. The Raosoft sample size calculator was used for calculation of sample size for the study, by keeping a margin of error of 5%, 95% confidence interval, a population size of 40,000 and a 50% response distribution. A minimum of 250 individuals were required for the study. A total of 154 individuals participated, out of which 85 were medical and 69 were non-medical personnel.

Ethical Consideration:

The study protocol was approved by the Research Ethics Committee of the Department of Pharmacy Practice, Faculty of Pharmacy, Hajvery University, Lahore. Online consent was obtained from each participant earlier to their enrollment. All the preventive measures of CoViD-19 were kept in mind and practiced while conducting data collection.

Data Collection:

A self-administered questionnaire was polished in English language. No need for Urdu version of the questionnaire was required for this study. Initially, the draft of questionnaire was reviewed by one assistant professor and one lecturer for correction. The questionnaire was polished time to time by rectification. The final questionnaire consisted of the following sections.

Section 1
It included eight questions regarding demographic details of the study participants.

Section 2
It included questions related to the knowledge of psychological signs and symptoms on patients due to CoViD-19. This section included a total of 10 questions. Each correct answer holds a score of 1. And the total possible knowledge score is 0-10. Participants with scores less than 5, 5-8, and greater than 8 were considered as poor, moderate and good knowledge, respectively.

Section3
This section included questions about the adverse effects people have on their daily lifestyle and how CoViD-19 has affected them. This section included a total of 10 questions. Each correct answer holds a score of 1. And the total possible knowledge score is 0-10. Participants with scores less than 5, 5-8, greater than 8 were considered to be poor, moderate and good knowledge, respectively.

Section 4:
10 questions to evaluate the participants' preventive practices regarding CoViD-19. Criteria of scoring is similar to the previous sections. Scores greater than 8 were considered good preventive practice and less than 5 were considered poor practice of participant.

Section 5:
10 questions to assess the psychological impact of CoViD-19 were asked. Each positive impact was scored as 1 and a score greater than 8 was considered positive impact and less than 5 was considered negative psychological impact.
The questionnaire was pretested on 5 pharmacy students of Hajvery University, before presenting it to the study participants. All presenting participants were ensured that they completely understood the questions and their relevance to CoViD-19.

RESULTS
A statistical survey about depression associated with CoViD-19 was conducted among the population and 154 responses from people was obtained which showed the following results (Table 01):
1. A substantial portion (62%) expressed worry about job security during lockdown.
2. Many respondents reported experiencing feelings of guilt, with 50% occasionally feeling guilty.
3. Most individuals (52%) reported feeling happy most of the time, but a notable percentage (37%) sometimes felt helpless.
4. A significant number (47%) reported sometimes getting bored, while 41% occasionally dropped activities and interests.
5. Concerns about memory problems were expressed by 47% on occasion.

Table 01: Demographic details of study participants

Survey Questions	Not at all (%)	Sometimes (%)	Mostly (%)	Always (%)
1. Fear of a loved one getting sick	13%	37%	16%	34%
2. Bad feelings of guilt	30%	50%	13%	7%
3. Feel happy most of the time	9%	33%	52%	6%
4. Worry about losing your job	62%	20%	9%	9%
5. Dropped many activities and interests	23%	41%	35%	1%
6. Often get bored	8%	47%	34%	11%
7. Often feel helpless	37%	46%	12%	5%
8. Sleep excessively or have difficulty sleeping	29%	36%	27%	8%

The survey results reveal a spectrum of emotional and behavioral responses to the CoViD-19 pandemic. Notably, a substantial portion of respondents express occasional fears of something bad

happening (48%) and sometimes feel that others are better off (49%). This reflects heightened anxiety and perceived disparities among some individuals. Additionally, a significant number (35%) prefer to stay at home, indicating the impact of lockdowns on leisure choices. Meanwhile, concerns about memory problems (47%) and feelings of life-ending (38%) underscore the psychological toll of the pandemic. These findings emphasize the importance of tailored mental health support to address the varied challenges faced by individuals during these trying times (Table 02).

Table 02: Knowledge of psychological signs and symptoms on patients due to CoViD-19

Survey Questions	Not at all (%)	Sometimes (%)	Mostly (%)	Always (%)
9. Afraid something bad will happen to you	33%	48%	14%	5%
10. Prefer to stay at home than do new things	20%	25%	35%	20%
11. Problems with memory most of the time	33%	47%	12%	8%
12. Think most people are better off than you	32%	49%	10%	9%
13. Poor WIFI connection is also a problem	14%	29%	24%	33%
14. Think that your life is going to end	49%	38%	7%	6%
15. Stay motivated	8%	30%	44%	18%
16. Tried to leave your house during lockdown	44%	44%	11%	1%
17. Call any support line or counselor	80%	17%	2%	1%
18. Distracted from television, computer, or games	34%	39%	21%	7%
19. Want to talk and share feelings	11%	44%	27%	18%

The survey outcomes from questions 20 to 30 paint a nuanced picture of individuals' experiences during the CoViD-19 pandemic. Encouragingly, a substantial 42% express a consistent sense of hope for the future, demonstrating resilience. However, challenges persist; notably, nearly half (46%) sometimes feel depressed during isolation, and a significant portion (45%) experiences emptiness. The majority (66%) report that personal relationships remain unaffected by self-isolation, while concerns about medication use (55%) and self-isolating correctly (34%) emerge. Additionally, varying perceptions about the strictness of self-isolation measures (32%) and occasional doubts about food safety (29%) highlight the diverse range of pandemic-related concerns individuals navigate. These findings underscore the importance of holistic support and communication during unprecedented times.

Table 03: Adverse effects people have on their daily lifestyle

Survey Questions	Not at all (%)	Sometimes (%)	Mostly (%)	Always (%)
20. Feel hopeful about your future	8%	18%	33%	42%
21. Self-medicating	35%	34%	21%	10%
22. Taken any medications for any illness	25%	55%	13%	7%
23. Feel depressed in isolation	28%	46%	17%	9%
24. Feel emptiness in your life during isolation	26%	45%	20%	9%
25. Sufficient housing conditions for isolation	22%	20%	36%	22%
26. Faced any tragedy during isolation	80%	13%	6%	1%
27. Self-isolating correctly	19%	34%	27%	21%
28. Self-isolation as a strict CoViD-19 measure	27%	32%	25%	16%
29. Bad effect on personal relationship	66%	22%	11%	1%
30. Doubt about eating food due to CoViD-19	47%	29%	16%	8%

The majority (83%) report not having thoughts of suicide, highlighting resilience among the respondents, but it's concerning that 14% sometimes have such thoughts. A reassuring 88% have not attempted suicide, though 8% acknowledge sometimes attempting it, indicating the need for mental health support. Confidence in preventive strategies is mixed, with 42% mostly trusting them, while 21% do not think they are effective. Overthinking during self-isolation is a common experience (36%), underscoring the psychological impact of isolation. Only 11% have not received sufficient infection prevention education, demonstrating broad awareness efforts.

Respondents vary in their belief in the psychological support offered by news and social media (32% not at all, 7% always find it helpful). Most (62%) do not think they should get tested for CoViD-19 with only cold symptoms. A notable 48% don't believe fever during self-isolation indicates CoViD-19, but 30% sometimes think it does. Concerns about people returning to work or public spaces after isolation are significant (34% mostly worried).

Table 04: Participant's preventive practices psychological impact of CoViD-19

Survey Questions	Not at all (%)	Sometimes %)	Mostly %)	Always (%)
32. Thoughts to commit suicide	83%	14%	1%	-
33. Attempted to commit suicide	88%	8%	2%	-
34. Trust in current preventive strategies	21%	31%	42%	6%
35. Became an over-thinker during self-isolation	27%	36%	25%	12%
36. Received sufficient infection prevention education	11%	20%	52%	17%
37. Belief in psychological support from news/social media	32%	40%	21%	7%
38. Get tested for CoViD-19 with just cold symptoms	62%	29%	8%	1%
39. Believe you have CoViD-19 with a fever in isolation	48%	30%	17%	5%
40. Worry about people returning to work/public	10%	35%	34%	10%

DISCUSSION

The aim of our current study was to explore the prevalence of CoViD-19 associated depression among medical and non-medical professionals in Lahore. The prevalence of depression was found to range from 36.9% to 48.7%. These results are consistent with previously reported prevalence rates [10]. One possible explanation is that at the time of this study, the epidemic had not peaked, and the number of reported cases was relatively insignificant in the study settings. In our current study, several factors were associated with CoViD-19 related depression prevalence rates. Some of these variables were also reported in previous literature, including female gender, having a friend or family member diagnosed with mental illness and using the internet. New variables identified in the current study that are directly related to current epidemiological crisis have not been reported previously [11]. These include contacting a person with CoViD-19, being quarantined for 14 days, being at risk of infection and the increased rate of internet use after CoViD-19 appearance. Countries need to establish creative methods to shift the attention of youth e.g., online competition for general public in order to distract them and cell phone companies must make mobile phone calls available for free so people can socialize and support each other [12]. One of the plausible factors could be perception of an inadequate capacity of healthcare system to handle this outbreak while having witnessed collapse of best healthcare systems even in the developed world. A survey of Older Adults in London Long periods of social isolation may have a profound negative effect on mental health conditions including depression, anxiety, stress and insomnia may differ as a function of sex and age and may worsen health inequalities, with poorer and marginalized groups at greatest risk [13]. According to survey the total of 12.8% of participants reported feeling worse on the depression components of Hospital Anxiety and Depression Scale - HADS (7.8% men and 17.3% women) and 12.3% reported feeling worse on the anxiety components (7.8% men and 16.5% women). Fewer participants reported feeling improved (1.5% for depression and 4.9% for anxiety). Women, younger participants, those single/widowed/divorced, reporting poor sleep, feelings of loneliness and who reported living alone were more likely to indicate feeling worse on both the depression and/or anxiety components of the HADS [14]. The finding that 14% of respondents sometimes have thoughts of committing suicide is concerning and underscores the need for accessible mental health resources and support systems. This indicates that the pandemic has taken a toll on the emotional well-being of a notable portion of the surveyed population. Preventive Measures: The mixed perceptions of the effectiveness of preventive measures, with 42% mostly trusting them and 21% not believing in their efficacy, highlight the importance of clear and consistent public health communication. Addressing misconceptions and building trust in these measures is crucial for a successful response to the pandemic [15].

CONCLUSION

It is concluded that, the survey presents the multifaceted impact of the CoViD-19 pandemic on individuals' mental health and behaviors. It underscores the urgency of addressing mental health challenges, with concerns about suicide and depression evident among respondents. The mixed perceptions of preventive measures highlight the need for clear and consistent public health communication. The psychological toll of isolation, varying levels of trust in media, and diverse beliefs about testing underscore the complexity of pandemic responses. Overall, a comprehensive approach is imperative, including accessible mental health support, enhanced communication strategies, and targeted education efforts, to navigate the challenges posed by the pandemic effectively.

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