

The Impact of the Covid-19 Pandemic on Mental Health of Teens

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SUMMARY

The stress, fear, and uncertainty created by the COVID-19 pandemic can wear anyone down, but teens may have an especially tough time coping emotionally. In this study, we aim to highlight the impact of this pandemic on the mental health of teens, who account for almost 50% of the population in Pakistan. We conducted a descriptive cross-sectional study in Islamabad, Pakistan. Due to the COVID-19 lockdown in Pakistan, we collected data through a validated online questionnaire from the students at private schools enrolled only in Cambridge Assessment International Examination (CAIE) system. The study included a total of 289 students, comprised of 116 males and 173 females within the age range of 13–19 years. Our study showed that the prevalence of signs of mental illness was quite high amongst teenagers, with slightly higher prevalence in female respondents. These signs included feeling socially disconnected, frequent mood swings, constant worry, self-dissatisfaction, change in eating habits, and change in sleep cycle. Since there is evidence that a significant burden of mental illnesses originates at a young age, we assert that close attention to mental health of young people in quarantine is warranted to avoid any long-term consequences.

INTRODUCTION

COVID-19, the novel coronavirus disease that was first detected in China in November 2019, has now spread to 206 countries. As of July 26, 2020, 16.1 million cases have been reported worldwide, with 650,148 confirmed fatalities (1). Public health emergencies, like the COVID-19 pandemic, take a toll both on physical and mental health. The restrictive measures during the COVID-19 pandemic undoubtedly have affected the social and mental health of individuals from across the board (2). A pandemic is not just a medical phenomenon; it affects individuals and society and causes mental stress and anxiety (3).

Stress, defined as emotional tension or mental strain, is all too common a feeling for most of us. Too much stress can produce both physical and emotional symptoms. The fear and uncertainty created by the COVID-19 pandemic can stress anyone down, but teens may have an especially tough time coping emotionally. Although the number of teenagers affected by COVID-19 is small, and most of the affected teens show only mild symptoms (4), the disease and the containment measures are likely to negatively impact their mental health and well-being (5).

As articulated by psychologist Erik Erikson, 'Identity vs Role Confusion' is the fifth of eight stages of psychosocial development that takes place between the ages of twelve and nineteen (6). An important event during this stage is developing social relationships. Teenagers and college students have amplified energy, novelty, motivation, curiosity, and enthusiasm that make them hard to isolate at home. The hormonal changes that come with puberty collude with adolescent social dynamics to make them highly attuned to social status, peer group, and relationships. Teens may feel frustrated, nervous, disconnected, nostalgic, and bored because of social distancing during this pandemic.

Feeling depressed, hopeless, anxious, or angry, having mood swings, loss of interest, a change in behavior, loss of appetite or overeating, a difficult time falling or staying asleep, or starting to sleep all the time during the COVID-19 pandemic may be signs which indicate that teens need more support during this difficult time (7). Moreover, exposure to mass media coverage of crisis events and unverified information circulating on social media may aggravate the mental distress. For teens, the coronavirus pandemic adds new pressure to their world (8). It is not only the fear and anxiety about the coronavirus disease but also unprecedented school closures, disrupted routines, separation from relatives and friends, worries regarding current world events, and adjusting to new ways of learning and working is hard (9). With schools closed for indefinite periods, exams cancelled or postponed, proposed grading system and executive orders calling for people to stay home, many students have found themselves struggling with mental health in ways they previously have not.

Throughout the world, the public is being informed about the physical effects of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and guidelines are provided regularly on how to prevent exposure to the coronavirus and to manage symptoms of COVID-19 if they appear. However, the effects of this pandemic on one's mental health have not been studied at length and are still unknown. Since most of the efforts are focused on understanding the epidemiology, clinical features, transmission patterns, and management of the COVID-19 outbreak, there has been very little concern expressed over the effects on one's mental health and on strategies to prevent stigmatization.

Data from the COVID-19 studies in Italy, Spain, and

Demographic Characteristics	Mean (SD) Or N (%)
Age	16.9 (1.61)
Gender	
Females	173 (59.8%)
Males	116 (40.2%)
Grades (O or A level)	
O level	100 (34%)
A level	189 (66%)
Family Structure	
Nuclear	202 (69.8%)
Joint	87 (30.1%)

Table 1. Demographic information of study participants. Data presented as mean (SD) or N (% of total).

China suggest significant emotional and behavioral changes during quarantine in children and adolescents (10). A review published in *The Lancet* mentioned that the separation from loved ones, loss of freedom, boredom, and uncertainty can cause a deterioration in an individual's mental health status (11). According to the American Psychological Association, a lack of social connection heightens health risks, creating an effect similar to smoking 15 cigarettes a day or having an

alcohol use disorder (12).

Ignoring the immediate and long-term psychological effects of the COVID-19 pandemic would be disastrous, especially for children and young people, who account for almost 50% of population in Pakistan (13). The students had to acquaint themselves with a new approach to online classes and cancellation of multiple examinations, including Cambridge Assessment International Examination (CAIE). COVID-19 has not only affected their learning process but has also narrowed down their social interaction, forcing them to interact only through social media apps. This study aims to highlight the impact of this pandemic and associated lifestyle changes on teens mental health in Pakistan.

RESULTS

A total of 301 students consented to be part of this study and 289 participants who fulfilled the inclusion criteria were recruited. Total sample of 289 participants comprising 59.8% females and 40.2% males with mean age of 16.9 ± 1.61. Basic demographic characteristics of the study population were collected (**Table 1**).

Prevalence of signs of depression and anxiety

It was observed in our study that the prevalence of signs of mental illness was quite high amongst teenager with slightly higher prevalence in female respondents compared to males (**Table 2 & Figure 1**). These signs include feeling socially disconnected, frequent mood swings, constant worry, self-dissatisfaction, change in eating habits, and change in sleep cycle. We noted that most commonly repeated sign was a change in eating habits with 255 (88.2%) participants reporting either loss of appetite or

Study variable	% Responses of study population (n)			
	Males = 40.2% (116)		Females = 59.8% (173)	
	Yes	No	Yes	No
Little to no interest in doing activities/things	83.6% (97)	16.3% (19)	82.6% (143)	17.3% (30)
Feeling down, depressed/hopeless	72.4% (84)	27.5% (32)	83.2% (144)	16.7% (29)
Feeling disconnected	56.0% (65)	48.57% (51)	59.5% (103)	40.4% (70)
Frequent mood swings	80.1% (93)	19.8% (23)	85.5% (148)	14.4% (25)
Constant worry or feeling mentally overburdened	47.4% (55)	52.5% (61)	58.3% (101)	41.6% (72)
Feeling of self-dissatisfaction/self-depreciation	40.5% (47)	59.4% (69)	65.3% (113)	34.6% (60)
Change in sleep cycle	60.3% (70)	39.6% (46)	73.4% (127)	26.5% (46)
Change in eating habits	87.0% (101)	12.9% (15)	89.0% (154)	10.9% (19)
Feeling disturbed due to current issues on social media	47.4% (55)	52.5% (61)	61.2% (106)	38.7% (67)
Feasibility of online classes	15.5% (18)	84.4% (98)	21.3% (37)	78.6% (136)
Feeling disadvantaged by the grade policy for CAIE	67.2% (78)	32.7% (38)	59.5% (103)	40.4% (70)

Table 2. Gender-based distribution of key study variables and signs of mental illness. Data is expressed as percentages (n).

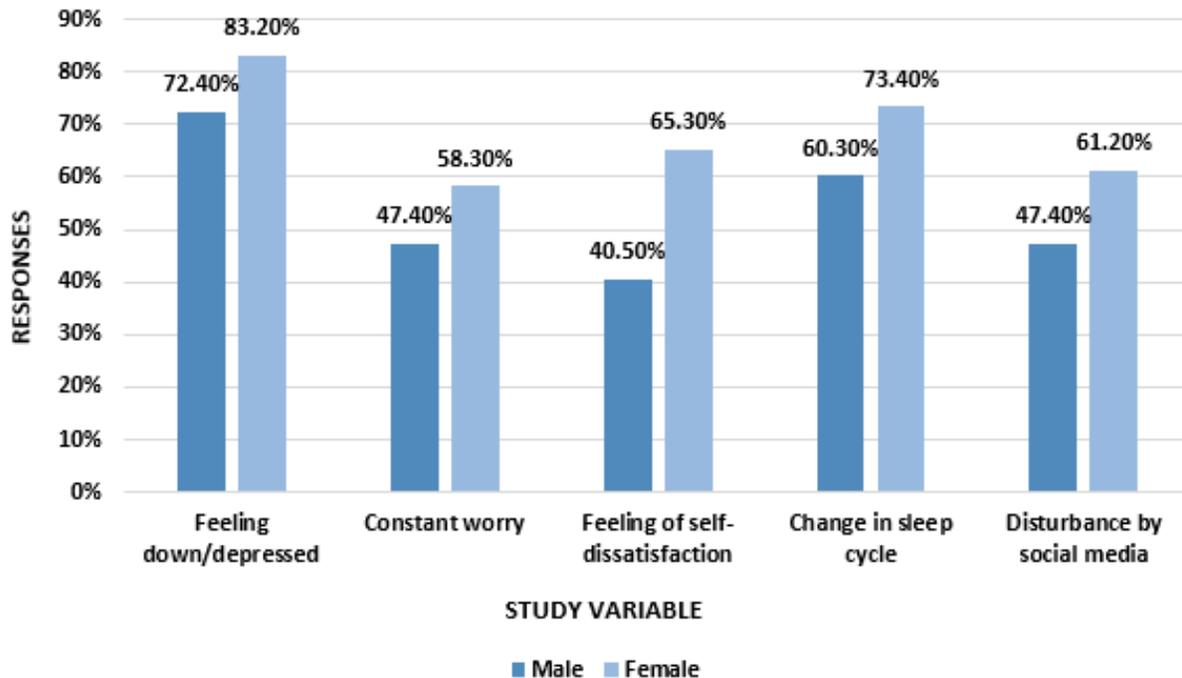


Figure 1. Gender-based distribution of signs of mental illness in study population

overeating. A total of 168 participants (58.1%) reported a feeling of disconnect, 241 (83.3%) reported mood swings, 158 (54.6%) were occupied by constant worry, 161 (55.7%) had a feeling of self-dissatisfaction, while 197 (68.1%) reported change in sleep cycle (insomnia, disturbed sleep or oversleeping) (Figure 2).

Out of the total sample, 240 participants, including 83.6% (97) males and 82.6% (143) females, reported “little or no interest in doing things,” while 228 subjects, including 72.4% (84) males and 83.2% (144) females, reported “feeling down, hopeless or depressed” over the past two weeks (Table 2). Both of these responses are early warning signs of depression, according to Patient Health Questionnaire (PHQ-2 & PHQ-9) (15). Overall, 67 (28%) participants reported trouble falling asleep, 26 (11%) mild insomnia, 70 (29%) oversleeping, while 77 (32%) reported no change in sleep cycle (Figure 3).

Several other variables including disturbance due to news on social media, feeling disadvantaged by predicted grade policy by CAIE system, and feasibility of online classes were also recorded. 47.4% of (55) males and 61.2% (106) of females reported that they were disturbed by the news on social media. 84.4% (98) of males and 78.6% (136) of females expressed their dissatisfaction over the feasibility of online classes. A total of 67.2% (78) of males and 59.5% (103) of females expressed their concern over the predicted grade policy announced by CAIE.

DISCUSSION

The COVID-19 outbreak has been unexpected in most countries and has resulted in an increase in known risk

factors for mental health problems. Mitigation strategies such as quarantine, although necessary to contain viral spread, have a negative psychological impact, such as causing post-traumatic stress symptoms, emotional disturbance, depression, and insomnia (14). Teen aged individuals are especially sensitive to the negative impacts of the uncertainty, lockdown, physical distancing, inactivity, increased access to food, and false information online caused by the COVID-19 pandemic.

A commonly used screening tool for depression, the PHQ-2, lists feelings of “little or no interest” and “down or depressed” as preliminary signs of depression (15). Notably, our study found that more than 80% of participants experienced these feelings. The purpose of the PHQ-2 is not to establish a final diagnosis or to monitor depression severity but rather to screen for depression as a “first step” approach. Teen depression is associated with subsequent adult depression and other psychiatric illnesses. Depressed teens are more likely to have significant coexisting emotional and behavioral problems, such as anxiety, post traumatic stress disorder (PTSD), hyperactivity, drug use, and aggressive behavior (16). In some studies, teens reporting probable depression showed diminished productivity and lower educational attainment, compared with nondepressed peers (16).

The prevalence of signs of mental illness was also found to be quite high in our study. This result complies with other studies showing that being female, a younger age, or a student put individuals at higher risk for increased anxiety and depression symptoms (17). Pakistan, like many other countries, has emphasized the practice of social

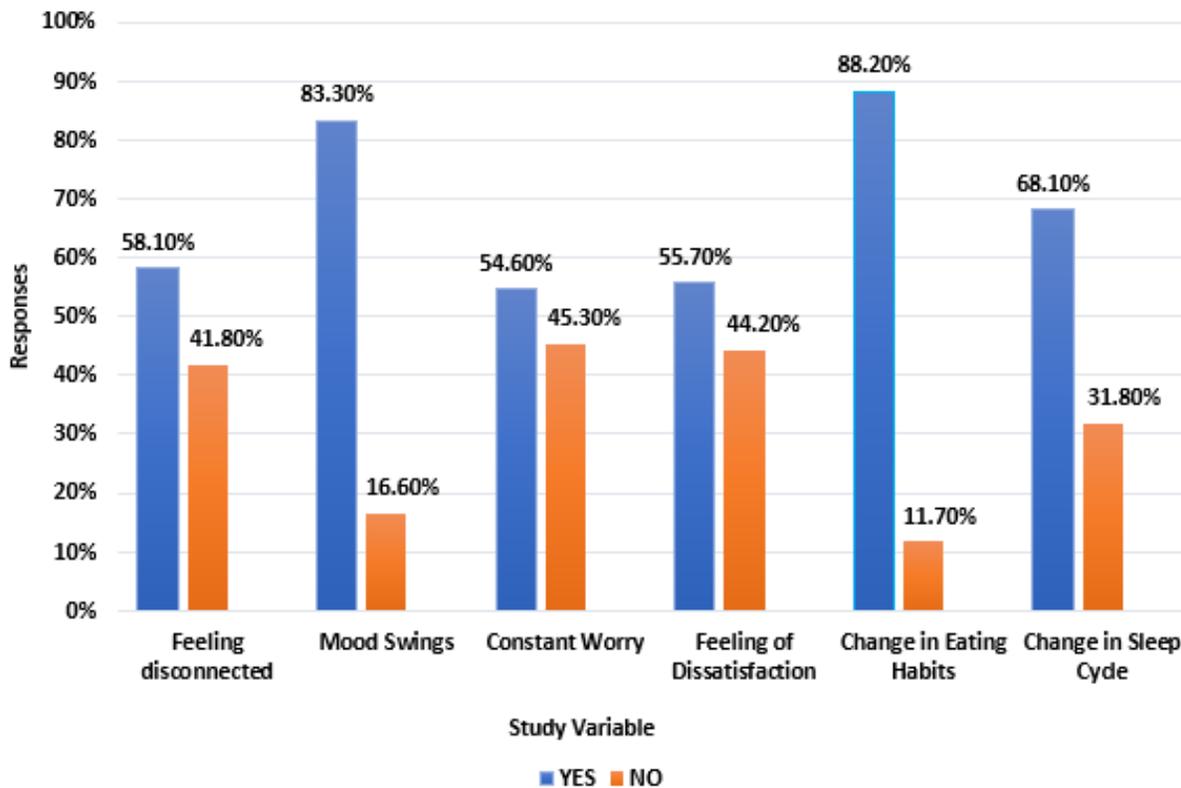


Figure 2. Signs of mental illness in study population

distancing in order to combat the spread of COVID-19. Educational institutions have been closed and exams have been postponed. The rise in the number of infected cases and deaths, the disruption of daily routines, the home confinement, fear of infection, social distancing from peers and friends, and lack of access to educational resources have created a feeling of uncertainty and anxiety among children and adolescents (13). The situation is further deteriorated by the news and online information available on social media, and the uncertainty about exams and grading policies in CAIE. It is suggested by some studies that repeated media exposure to public health crises, including infectious diseases, can cause heightened psychological distress (18,19).

Studies found elevated levels of anxiety, distress, and depression among quarantined individuals (20). There is evidence that children and young individuals subjected to quarantine in pandemic disasters have a higher likelihood of developing acute stress disorder, adjustment disorder, and grief, and reported four times higher scores of PTSD compared to those who were not quarantined (21). None of the studies on children looked at duration of quarantine and its association with psychological impact, but literature suggests higher PTSD symptoms in those quarantined for longer duration, specifically for more than ten days (22). Given the fact that Short-lived infectious outbreaks like SARS in 2002 were associated with a high prevalence of PTSD. Therefore, it is likely that young populations will

experience long lasting distress and trauma due to the larger scale and prolonged nature of the COVID-19 pandemic.

The COVID-19 pandemic has forced the whole world to question whether we are prepared for such pandemics. Even developed nations, despite having enough resources to tackle such pandemic situations, may have to think manifolds but especially when it comes to preparing for the physical and emotional security of young adults and teens (23). As there is evidence that significant burden of mental illnesses originate at a young age, and adult life productivity is also deeply rooted in early years, close attention to the mental health of young people in quarantine is warranted to avoid any long-term consequences (24).

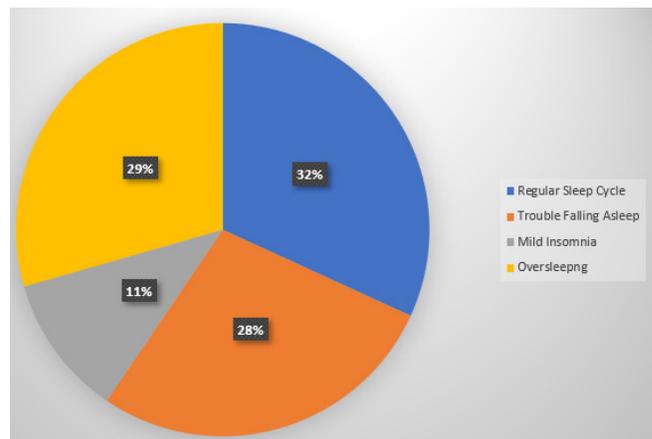


Figure 3. Changes in sleep cycle within study population.

To overcome this, measures at the individual and societal levels are required. The present situation requires raising awareness in public, which can be helpful to deal with this calamity (25). Many questions remain about how to mitigate the mental health effects of the COVID-19 pandemic. Community monitoring and mental health screening could be implemented in selected groups, or digital health could be used to switch from individual-based approaches to population-wide screening (26). A more immediate alternative would be to integrate psychiatric screening into primary care, using validated instruments, such as the Patient Health Questionnaire depression scale (PHQ-9) and the Generalized Anxiety Disorder scale (GAD-7), to identify initial symptoms of depression and anxiety and to enable early, targeted intervention.

Researchers specializing in psychology, psychiatry, behavioral and social science, and digital health, as well as healthcare providers, policymakers, and other stakeholders, must work together toward innovative and practical technologies to address the mental-health needs under the current pandemic condition. As the crisis caused by the COVID-19 pandemic shifts from acute to protracted, we must pay attention to the potentially devastating effects on population-wide mental health and emotional and social well-being. There will be no easy solution, but high-quality research, coupled with recent innovations in digital health, could enable health services to offer proactive and tailored mental health care for those in need (27). Public awareness campaigns focusing on the maintenance of mental health in the prevailing situation are urgently needed.

To the best of our knowledge, this is the first study to evaluate the depression and anxiety of teens in Pakistan during the COVID-19 pandemic. There is a remarkable dearth of data on the impact of the pandemic on the mental health of young individuals. The present study was a large internet-based cohort study with certain limitations as no previous data on mental health of participants was available. Therefore, it was difficult to predict whether these symptoms were present prior to the pandemic or developed as a result of mitigation strategies and changes in lifestyle due to COVID-19. Moreover, as inferential statistical tests were not conducted due to certain data limitations, the results cannot be generalized to all individuals as most of the sample was aged 13–19, and participants were enrolled in CAIE system only. We elected to conduct an anonymous survey to ensure maximum disclosure by study participants. This approach prevented us from conducting follow up studies with the same sample or to track individuals at a high risk for anxiety and depression.

METHODS

A descriptive cross-sectional study was conducted in Islamabad, Pakistan. Due to COVID-19 lockdown in the country, data was collected through a validated online questionnaire from the students at private schools enrolled

only in CAIE (Cambridge Assessment International Examination) system. All participants were informed about the objectives of the study and were recruited after informed consent, which was prompted before the questionnaire. The questionnaire comprised of items adopted from Patient Health Questionnaires (PHQ-2 & PHQ-9), which are screening tools for depression based on DSM-IV criteria (15). All participants who gave informed consent were enrolled. Initially, five questionnaires were administered to ensure validity and few minor changes in text were done for better understanding of the context.

The questionnaire was posted online through Facebook and Instagram accounts. Nonprobability convenience sampling method was used. Only students aged 13–19 years and enrolled in O and A levels (International General Certificate of Education) were included. Data was collected over a period of one month from the 20th of May to the 20th of June, 2020. A total of 289 students comprising 116 males and 173 females within the age range from 13–19 years were included in the study. We elected to conduct an anonymous survey to ensure maximum disclosure by study participants. This approach prevented us from conducting follow up studies with the same sample or to track individuals at a high risk for anxiety and depression. The confidentiality of all information was ensured. To calculate percentages, means and standard deviation STATA 12 was used.

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