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Original article

Psychological and emotional response to Lockdown in children during the ongoing pandemic COVID-19 in urban areas of Jaipur

Khushboo Bairwa, Sumit Gakkhar, Supriya Mathur, Poonam Garg

Address for correspondence: Dr. Khushboo Bairwa, Department of Psychiatry, Jaipur National University, Institute for Medical Science and Research Centre, Jaipur,
Email id: bairwa.khushboo@gmail.com

Abstract

Background: In the year 2020, the COVID-19 pandemic created havoc in people's lives across the entire world. The pandemic created fear and uncertainty, and Lockdowns were enforced for containment of the disease, impacting the general population's mental well-being as well. The dearth of studies on the subject, particularly on Children and adolescents, creates a vacuum of information which hinders the strategy formulation for effective handling of such issues.

Aim: The research aimed to study the psychological impact of Lockdown on children & adolescents in tier 2 city of India.

Methods: The study was conducted through online surveys in the city of Jaipur in Rajasthan state of India using the Snowball sampling technique. The Study group included children between the age of 6 to 16 years and assessment of the mental well-being of the participants were done using Short Mood &Feeling Questionnaire (SMFQ).

Result: A total of 301 valid responses were received, from which 38 (12.22%) children scored high on SMFQ wherein female adolescents scored higher than males. A total of 10 out 21 children with a history of medical illness scored high on SMFQ and a total of 2 out of 4 children with a past history of psychiatric illness scored high on SMFQ. The data analysis revealed that

most of the children struggled with feelings of restlessness, fatigue, unhappiness, and difficulty in concentration.

Conclusion: Lockdown has affected mental well-being of both children and adolescents. The impact was observed equally in both groups wherein those with psychiatric history were affected more than others in the 6-11 years age group (Children) and those with medical history were affected more than others in the 11-16 years age group (Adolescents). Immediate attention is needed for alleviation of mental burnout in children and adolescents considering already inadequate interventions in the matter and the ongoing nature of the pandemic.

Keywords: Lockdown, COVID-19 pandemic, psychological impact, children and adolescent, mental well-being

Introduction

In the year 2020, the world faced an invisible enemy in the form of a viral disease COVID-19, which was declared a public health emergency of International concern by WHO on 30th January 2020 [1] and later declared as Pandemic officially on February 11, 2020 [2]. A great deal of unpredictability followed the declaration creating a state of confusion and fear in different parts of the world depending upon the number of cases, deaths occurred and the extent of lockdown. The sudden halt of day-to-day activities and stagnation led to accumulation of stress with varying degrees in the general population. The focus had been on medical and financial aspects of the pandemic and the mental health and psychological well-being of the individuals were largely ignored.

In India, the period of March to April, which was the initial phase of pandemic, is a time of academic transition for children. The children are generally going through final examinations during this period and it marks change in academic sessions of the educational institutes. This got disrupted during the pandemic and uncertainty regarding the academic future hovered

around. The lack of support and assurance from the near and dear ones due to confinement and heightened stress due to fear of contracting the disease aggravated the problem. In certain cases, there was massive accumulation of stress among the people including children which exceeded their coping abilities in addition to the physical, emotional and financial burdens.

Joyce Lee mentioned about the importance of school routines as they are a crucial coping mechanism for younger population in terms of mental health and thus losing a scheduled life of school might lead to relapse of the symptoms [3]. It has been observed that children and adolescents are emotionally vulnerable during a disaster and their plight is either overseen or under estimated by the care givers, parents as well as health professionals [4, 5].

A child's reaction to a disaster varies widely depending on extent and exposure of the event, the amount of support during the disaster and its aftermath, and the amount of loss and social disruption. Various studies report that the children suffer from a range of psychiatric disorders in the post disaster phase among which acute stress reaction, adjustment disorder, panic disorder, PTSD, anxiety disorder specific to children and phobias [6,7,8] are most common. Other than these, schizophrenia and psychotic disorders have also been reported in children [9]. Subclinical disorders as well as comorbidities have also been commonly witnessed in children [7].

Children and adolescents are specifically vulnerable to post-disaster psychological morbidities [10] and the associated risks increase if they have been already suffering from psychological or behavioural issues [10, 11]. Exposure and coping with the prevailing adverse conditions or being a post disaster survivor serves as the primary risk factor, apart from which there are other factors as well which affect the psychological well-being. In case of PTSD, the recognized risk factors are female gender [12, 13], degree of exposure [5, 14, 15], loss of family members and separation anxiety [5], parental distress, and proximity to traumatic events [15]. Apart from this the educational level and socio-economic status also plays role [14]. Chronic and multiple

stressors [16,17], as well as previous stressful events and their outcome, increases the susceptibility of mental and behavioral issues.

The psychological impact of various diseases and pandemic has been studied previously but they mostly cater to the health care workers and the general population and specifically the younger population, remains the neglected in these areas of research. Au mentions it to be an important research gap [11]. COVID-19 is much more widespread on a global scale than other epidemics in recent past. Therefore, there is a need to monitor young people's mental health status over the long term, and to study how prolonged school closures, strict social distancing measures, and the pandemic itself affect the wellbeing of children and adolescents. The study was aimed at assessing the impact of this emergency on the psychological and emotional health of children and adolescents.

Methods

The study is a community based cross-sectional study carried out in the city of Jaipur, Rajasthan, India. Snowball sampling method was used through online survey. A questionnaire was developed in English language using Google forms with a consent form attached to it. The investigators and their network within the institution and outside, floated the link of the questionnaire through various messaging applications on social media. The participants were encouraged to forward the survey link to as many people as possible which led to inclusion of participants of diverse background in the study. The survey included a proforma about the identification details of the parents and the children involved in the study to capture socio-demographic data (age, gender, occupation, education, domicile, area of residence, etc.). Thereafter, assessment was done through Short mood and Feeling Questionnaire (SMFQ) [18]. At the start of the survey, the parents of the children were auto directed to a section which gave information about the study and thereafter, an informed consent was taken from them as the study population constituted the minors. After consent form, the proforma asked for the socio-

demographic and personal details and then questions of Short Mood and Feeling appeared sequentially. SMFQ is used as screening tool for depression and for assessing of how the child has been feeling recently. The Short Mood and Feeling questions were answered by the parents if their child is of the age group of 6-11 years of age and to be filled by the child if he or she was in age range of more than 11 year up to 16 years.

As it was an online study in English language, participants with access to the internet and familiarity with English could only participate in the study. Participants were children in the age range of 6 years to 16 years, whose parents are able to understand English and willing to give informed consent. The data was collected over a period of 4 weeks in April and May 2020 from Jaipur City in Rajasthan state of India. The study was conducted after the due clearance from the Ethical Committee of the College.

Results

A total 301 valid responses were received through the online survey from children and adolescents living in the city of Jaipur, Rajasthan. The responses received from participants in the age group 6-11years were 142 (47.18%) and 159 (52.82%) in the age group 11-16 years. Among the total participants in the study, 161(53.49%) were male, and 140(46.51%) were female. A total of 148 (49.17%) children belonged to Joint family while 153(50.83%) belonged to nuclear families and 147(48.84%) lived in gated societies with strict rules while 154(51.16%) lived in independent houses. There was a total of 21(6.98%) children with the past history of medical illness and a total of 4(1.33%) children had Psychiatric illness previously (Table-1).

In the 6-11 years age group 75(52.82%) were males while females were 67(47.18%), 76(53.52%) participants belonged to joint family and 66(46.48%) lived in nuclear families. Amongst these, 68(47.89%) lived in gated societies while 74(52.11%) lived in independent

houses. Past history of medical illness was seen in 7(4.93%) children and 2(1.41%) children has history of psychiatric illness.

In in 11-16 years age group, 86(54.49%) participants were males and 73(45.91%) were females, 72(45.28%) belonged to joint family and 87(54.72%) lived in nuclear families. Amongst these 79(49.69%) lived in gated societies while 80(50.31%) lived in independent houses. Past history of medical illness and psychiatric illness was seen in 14(8.81%) children and 2(1.26%) children, respectively. (Table-1)

Table-1: Sociodemographic profile (N=301)

Description	**B/w 6-11 Yrs. (N=142)**	**B/w 11-16 yrs. (N=159)**	**Total**
Gender Male Female	 75 (52.82%) 67 (47.18%)	 86 (54.09%) 73 (45.91%)	 161 (53.49%) 140 (46.51%)
Family type Joint Nuclear	 76 (53.52%) 66 (46.48%)	 72 (45.28%) 87 (54.72%)	 148 (49.17%) 153 (50.83%)
Living in Gated Society	68 (47.89%)	79 (49.69%)	147 (48.84%)
Medical History- present	7 (4.93%)	14 (8.81%)	21 (6.98%)
Psychiatry History- present	2 (1.41%)	2 (1.26%)	4 (1.33%)

Table-2: Descriptive analysis of Psychological distress screening through SMFQ

	For 6-11 years		**For 11-16 years**		**Whole Sample**	
Score	**Number of People**	**Mean Score Value**	**Number of People**	**Mean Score Value**	**Number of People**	**Mean Score Value**
Less than or equal to 8	123 (86.62%)	2.63±2.38	140 (88.05%)	3.46±2.43	263 (84.57%)	3.07±2.43
More than 8	19 (13.38%)	10.82±2.13	19 (11.95%)	11.79±3.97	38 (12.22%)	11.79±3.97
Mean Score		3.87±4.13		4.44±3.75		4.17±3.94
T-test value b/w 2 Age group at 95% CL		p value-0.216				

In Short Mood and Feeling Questionnaire (SMFQ), a total of 38 (12.22%) children had score of more than 8. 13.38% (19 out 142) children belonging to age range of 6-11years had a mean

score more than 8 in SMFQ, and 11.9% (19 out of 159) of adolescents from age 11-16 had a mean score of more than 8. The t-test at 95% confidence level reveals a p value of 0.216 which is not statistically significant (Table-2). In the age group 6 to 11 years, 19 out of 142 participants had SMFQ scores of more than 8. There was no significant difference seen in scores of males 10 (52.63%) and females 9 (47.37%), also in children living in Joint 9 (47.37%) and nuclear 10 (52.63%) families as well as in children living in gated 8(42.11%) or independent house 11 (57.89%). 3 out the 7 children with the history of medical illness had a mean score of more than 8 on SMFQ.

Interestingly, 2 children among this age group had history of psychiatric illness and both of them had mean score of more than 8 on SMFQ. The data of those with history of psychiatric illness was found to be statistically significant (P value <0.05) (Table-3).

Table-3: Descriptive analysis of Psychological distress in children

Description	**Less than 8**	**More than 8**	**$\chi 2$**	**P- Value**
Gender Male Female	65 (45.77%) 58 (40.85%)	10 (52.63%) 9 (47.37%)	0.00	0.98
Family type Joint Nuclear	67 (54.47%) 56 (45.53%)	9 (47.37%) 10 (52.63%)	0.56	0.33
Living in Gated Society	60 (48.78%)	8 (42.11%)	0.29	0.59
Medical History- present	4 (3.25%)	3 (15.79%)	0.02	5.52
Psychiatry History- present	0 (0%)	2 (10.53%)	13.23	0.00

In the age group 11- 16 years also there were 19 out of 159 participants who had scores of more than 8 on SMFQ. In this age group females outnumbered males in having higher scores on SMFQ, as 13(68.42%) females and 6(31.58%) males had scores more than 8 and the difference

was found to be statistically significant (p value- 0.04). 7 out of the 14 children with a past medical history had a mean score of more than 8 and the data was found to be statistically significant (p value-0.00). None of the child in this age group with a history of psychiatric illness showed a higher score on SMFQ (Table-4).

Table-4: Descriptive analysis of Psychological distress in Adolescents

Description	**Less than 8**	**More than 8**	**$\chi 2$**	**P- Value**
Gender Male Female	80 (57.14%) 60 (42.86%)	6 (31.58%) 13 (68.42%)	4.42	0.04
Family type Joint Nuclear	65 (46.43%) 75 (53.57%)	7 (36.84%) 12 (63.16%)	0.63	0.43
Living in Gated Society	72 (51.43%)	7 (36.84%)	1.42	0.23
Medical History- present	7 (5%)	7 (36.84%)	21.12	0.00
Psychiatry History- present	2 (1.43%)	0 (0%)	0.27	0.60

Overall, it can be seen that mental wellbeing of both children and adolescents is affected due to the pandemic which is also evident from the above data. It can be seen from the data that the around 158 (52.4%) children had feeling of being miserable or unhappy sometimes while 14 (4.6%) of them experienced it most of the times. 105 (34.8%) children reported of not enjoying things sometimes and 11 (3.65%) reported this feeling most of the times. Around 112 (37.2%) children were fatigued or tired sometimes and 17 (5.65%) of the felt it most of the times. Feeling of restlessness was also seen in 93 (30.9%) children sometimes and in 24 (7.97%) children, most of the times. Around 121 (40.2%) reported difficulty concentrating sometimes while 37 (12.29 %) had difficulty most of the time Table-5.

Table-5: Descriptive analysis and frequency distribution of the Psychological distress questionnaire for each question (For Whole sample)

S. No.	Questions	Not true	Sometimes True	True
1.	S/he felt miserable or unhappy	129 (42.86%)	158 (52.49%)	14 (4.65%)
2.	S/he didn't enjoy anything at all	185 (61.46%)	105 (34.88%)	11 (3.65%)
3.	S/he felt so tired that s/he just sat around and did nothing	172 (57.14%)	112 (37.21%)	17 (5.65%)
4.	S/he was very restless	184 (61.13%)	93 (30.9%)	24 (7.97%)
5.	S/he felt s/he was no good any more	240 (79.73%)	58 (19.27%)	3 (1%)
6.	S/he cried a lot	237 (78.74%)	54 (17.94%)	10 (3.32%)
7.	S/he found it hard to think properly or concentrate	143 (47.51%)	121 (40.2%)	37 (12.29%)
8.	S/he hated him/herself	282 (93.69%)	15 (4.98%)	4 (1.33%)
9.	S/he felt s/he was a bad person	284 (94.35%)	13 (4.32%)	4 (1.33%)
10.	S/he felt lonely	205 (68.11%)	82 (27.24%)	14 (4.65%)
11.	S/he thought nobody really loved him/her	255 (84.72%)	38 (12.62%)	8 (2.66%)
12.	S/he thought s/he could never be as good as other kids	252 (83.72%)	44 (14.62%)	5 (1.66%)
13.	S/he felt s/he did everything wrong	244 (81.06%)	52 (17.28%)	5 (1.66%)

Discussion

This is a community based cross-sectional study, aimed at assessing the psychological and emotional impact of the lockdown on children and adolescents. It was observed that the ongoing situation especially lockdown did affect the psychological well-being of the stated population. A mean score of more than 8 was observed in 38(12.22%) participants on the SMFQ scale, which is used as a screening tool for depressive disorders and how they have been feeling recently. The results are higher than other community-based studies on depression in India. Though limited, other community-based studies show prevalence of depression/affective disorders to be 0.1 to 6.94% in children and adolescents [19]. The psychological impact was observed in both age groups equally as SMFQ scores for children (6-11 years) were 13.38% while for adolescents (11-16 years) it were 11.9%. Females in the adolescent age group were clearly more affected than the males and the difference was statistically significant as well.

Higher prevalence of depression in adolescent females has also been evident in various other studies [20,21,22] as well.

It is a well-known fact that stress of any kind increases the chances of psychological issues in general population and the same stands true for children as well. It has been reported in other studies as well (16,17). Similar results were observed in this study, as children with history of medical or psychiatric illness recorded higher score on SMFQ and data was found to be statistically significant. This study reveals that the children and adolescents reported having feelings of unhappiness, feelings of restlessness and difficulty in concentration during the Lockdown, which too indicated the effect of psychological stress.

It has to be noted that the world has not witnessed a global war or economic crisis or a calamity of the scale of COVID-19 pandemic since last 5-6 decades and people are not prepared for such exigencies in general all over. Lockdown arising out of the pandemic are completely unfamiliar to the current generation and specifically for younger population. Wherein adults can express their feeling far often and find support, children are affected doubly as they might not say about their psychological reactions [23] and they might not have the opportunity of being asked about their feelings, citing their cognitive immaturity [24]. Lockdown resulted in a sharp change in environment of children and put a "brake" on social interactions with teachers, peers and friends which are important for the overall wellbeing and happiness [25]. The scope of gaining knowledge and means of enhancing creativity got reduced as well, due to lack of access to school. The constant pressure of online classes and the virtual education system added to the burden, resulting in difficulty in concentration, as reported by the children in the study.

This side of a pandemic has not grabbed enough attention of the researchers and the study of the immediate and long-term effects of a pandemic on the psychological and behavioral issues in children especially in the Indian subcontinent (South Asia) has been limited. There have been editorials and articles discussing the impact of COVID-19 on mental health of children

but there is dearth of analytical studies on the same which quantify the impact of Lockdown on children and most of the conclusions have been extrapolated from the studies done on adults. Therefore, this study is significant since it evaluates psychological impact of Lockdown exclusively on the children and adolescents and helps in screening children for the mental health issues especially depression.

Studying the psychological and emotional state of young age group is extremely important as various psychiatric illnesses develop during the adolescent period itself [26] and more so when they have had been through chronic stress [16,17], nearly 20 to 30% population develop their first episode of major depression during adolescence [27]. The percentage of developing anxiety disorders during adolescent period is also high 50%–75% [27]

Early diagnosis and psychological support are required at the earliest, else with the progression of age already existing mental health issues becomes complex and intense [28] and leaving them untreated further deteriorates the overall social and occupational functioning. In case of children, they come up as poor academic performance or even school dropout, and engagement with high-risk behavior increases including substance abuse, risky sexual behaviors [29] and indulgence in cybercrimes as well.

As the pandemic continues, the issues related to loss of household income or parental unemployment and other such occurrences may be detrimental to child's wellbeing and it might lead to worse outcomes in children with mental disorders [30]. The mental health interventions in India are already inadequate and therefore, there has to be a focused approach towards mental health in light of these results.

It may be noted the study has its limitations of having a representative sample of limited size. A larger sample size would definitely improve accuracy of the results and the sample population can also be enhanced to include diversity in terms of language, socio-economic status, access to internet etc. The study has been conducted in a tier 2 city of India and the

results can be extrapolated to other such cities or population sample of similar socio-economic strata and demography.

To conclude, mental well-being of both children and adolescents is affected due to Lockdown. The effects are equally distributed among children and adolescents while those with psychiatric and medical history are affected more than others. The immediate implication of the study is to draw attention towards the psychological impact of lockdown on mental health of children and adolescents and the need to devise specific strategies to alleviate mental burnout among them. Efforts to focus on the issue can start with focusing on those with existing history of medical or psychiatric illnesses. The findings of this research can be key to combat the ill mental health of children and adolescents and can guide to form an action plan to deal with currently prevailing situation, as well as future adversities.

Conflict of interests: none

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Dr Khushboo Bairwa, Assistant Professor, Dr Sumit Gakkhar, Assistant Professor, Dr Supriya Mathur, Senior Resident, Poonam Garg, Clinical Psychologist, Department of Psychiatry, Jaipur National University, Institute for Medical Science and Research Centre, Jaipur.