

Effects of pandemic on families, parenting stress, and emotional well-being of children in villages under Mugalur Subcentre, Sarjapur PHC, Bengaluru

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ABSTRACT

Introduction: The COVID-19 pandemic has not only affected the health status of the population but has also had a serious impact on family dynamics, especially in the relationship between parents and children. Home confinement along with the closures of schools has had a strong negative impact on the psychosocial wellbeing of children. This study assesses the effects of the pandemic on families, parenting stress, and emotional well-being of children in villages under Mugalur Sub-centre, Sarjapur PHC, Bengaluru. **Materials and Methods:** A cross-sectional study was undertaken from January 2022 to April 2022 among parents having children in the age group of 4 to 10 years residing in villages under Mugalur Sub-center, Sarjapur PHC, Bengaluru District. The proportional allocation sampling method was followed to collect data from 210 participants using the effects of questionnaire, parent stress scale, and strength and difficulties questionnaire- parent version. **Results:** Among 210 study participants, 105 (50%) were found to have moderate to high stress due to the pandemic. Parenting stress was found to be high in 40 (20%) parents and moderate in 63 (30%) parents. Assessment of the emotional well-being of children showed that 24 (11.5%) children have clinically significant problems. Significant associations were found between the effect of, parental stress and high parental stress correlated with low emotional well-being of children. **Conclusion:** This study emphasizes the urgent need for targeted mental health support for families, particularly during crises such as the pandemic. Interventions aimed at reducing parental stress and promoting children's emotional well-being are crucial for mitigating adverse effects and ensuring the long-term well-being of families and communities.

Keywords: COVID-19 pandemic, emotional well-being, family dynamics, parenting stress

Introduction

COVID-19 is an infectious disease caused by the SARS-CoV-2 virus.^[1] The illness can range from mild to moderate respiratory infection to more severe illnesses, especially in older age groups^[2] and people with underlying medical comorbidities. Transmission

of the virus is by respiratory droplets or aerosols.^[3] Despite the age or underlying medical comorbidities, anyone can develop COVID-19 and the illness can be life-threatening which has caused a great deal of panic and anxiety among the people.^[4]

The COVID-19 pandemic has not only affected the health status of the population but also affected economic growth and social structures.^[5] Click or tap here to enter text. The transition of life from pre-pandemic to the pandemic in the form of social restrictions, the

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closing of places of entertainment like cinemas, shopping centers, etc., and switching of physical learning to online learning in schools, home confinement, banning of social gatherings, the closing of all non-essential business had serious impacts on the family dynamics.^[6] It has been observed that in the past, epidemics such as Ebola, HIV, and SARS had adverse psychosocial consequences not only for the infected but also for the non-infected.^[7]

The new “normal” has created emotional and psychological stress among the family members, especially impacting the relationships between parents and children. Click or tap here to enter text.^[6] The lockdown impact on children’s behavior and emotional problems is mediated by parents’ individual and dyadic stress.^[8] The stressful experiences for parents who must balance personal life, work, and raising children being left alone without the resources, puts parents at a higher risk of experiencing distress potentially impairing their ability to be supportive caregivers.^[8]

Nearly 70% of the country’s population lives in rural areas as per the 2011 census.^[9] Traditionally rural India’s main occupation has been agriculture and the source of rural economy and employment. Studies assessing the ground situation reported that the pandemic and the national lockdown have severely affected lives and livelihoods across rural India.^[10]

The current study has tried to assess the effects of the COVID-19 pandemic on families, parenting stress, and emotional well-being of children in the villages under Mugalur Sub-centre (SC) Sarjapur Primary Health Centre (PHC), Bengaluru.

Methodology

A cross-sectional study was conducted among families of children aged 4 to 10 years residing in villages under Mugalur SC, Sarjapur PHC, Bengaluru Urban District, Karnataka. Parents of children in the age group of 4–10 years were included in the study.

The inclusion criteria used were that they should be residents in the current village for at least 2 years and should have a child in the age group of 4–10 years. If a family had two children in the same age group, the older child was considered for assessment of emotional well-being. There were no exclusion criteria. This study received approval from the Institutional Ethics Committee, St. John’s Medical College and Hospital, IEC 82/2022.

Sample size

The sample size was calculated to be 210 using the prevalence of parenting stress from the study done by Adams *et al.*,^[11] using the formula, $z^2(p q)/d^2$

$$\frac{(1.96)^2 (55)(45)}{7 * 7} = 202, \text{ rounded off to } 210.$$

Study tools

The socio-demographic details like gender, age, education, occupation, type of family, income of the family, and type of

card were collected using a semi-structured interview schedule. The socio-economic status of the family was assessed using the Modified B G Prasad socio-economic scale for the year 2021.^[12]

ECQ^[13] was used to assess the effect of COVID-19 on families. This questionnaire consists of questions on purchasing power, social life, financial burden, etc., The tool uses a Likert’s scale for responses and the final percentile scores gets categorized as low, moderate, and high stress among families.

Parent Stress Scale (PSS)^[14] was used to assess parents’ feelings about their parenting role, exploring both positive aspects (e.g., emotional benefits, personal development) and negative aspects of parenthood (e.g., demands on resources, feelings of stress). It uses a 5-point Likert scale ranging from strongly disagree to strongly agree. The overall percentile scores get categorized as low, moderate, and high parenting stress.

The emotional well-being of children was assessed using the Strengths and Difficulties Questionnaire (SDQ),^[15] which is a brief, 25-item, measure of behavioral and emotional difficulties among children and young people. This study used a parent version of the questionnaire for 4–10 years of age. The questionnaire measures the Emotional Symptoms Scale (ESS), Conduct Problem Scale (CPS), Hyperactivity Scale (HS), Peer Problem Scale (PPS), Prosocial Behaviour Scale (PBS), and an overall Total Difficulties Score (TDS).

Data collection and analysis

Proportional allocation of samples into 10 villages under Mugalur SC. Participants were interviewed by house-to-house survey using the Epicollect5 application after getting their consent, from January 2022 to April 2022. All the Questionnaires were translated and back-translated into the local language and administered by the interviewers.

It was simultaneously collated into Microsoft Excel. Data was analyzed using SPSS Version 21. Pearson’s Chi-square test and One way ANOVA tests were applied to check for associations for all variables, after testing for the normality of data. For all the comparisons, $P < 0.05$ was considered statistically significant.

Results

During the study period, a total of 210 parents were interviewed in 10 villages. The mean age group of study participants was 31.2 ± 5.2 years and most of them were females, 169 (80.5%). More than half of the families 114 (54.3%) belonged to the lower middle socio-economic class and were predominantly nuclear families 124 (59%). Most of them had 2 children 128 (61%) with an average family size of 2.2 ± 2.1 . In the distribution of educational qualification and the occupation of study participants, the majority 84 (40%) were educated till higher secondary whereas 130 (61.9) were homemakers [Table 1].

Table 1: Distribution of socio-demographic variables of study participants (n=210)

Variable	n	%	Mean	SD
Gender of the study participants				
Females	169	80.5		
Male	41	19.5		
Age of the study participants			31.2	5.2
Religion				
Hindu	200	95.2		
Muslim	7	3.3		
Christian	2	1.0		
Others	1	0.5		
Monthly income of the family			15369.1	10892.7
Modified BGP Socio-Economic Status				
Lower	76	36.2		
Lower middle class	114	54.3		
Middle	12	5.7		
Upper Middle class	8	3.8		
Type of family				
Nuclear family	124	59.0		
Joint family	46	21.8		
Three generation family	15	7.1		
Extended family	25	11.9		
Total number of children				
One child	52	24.7		
Two children	128	61.0		
More than Two children	30	14.3		
Number of children in the age group of 4-10 years				
One child	137	65.0		
Two children	73	35.0		
Type of card				
BPL	185	88.1		
APL	17	8.1		
No card	8	3.8		
Education				
No formal education	3	1.5		
High school	24	11.4		
Higher secondary	84	40		
Graduation	75	35.7		
Postgraduation	24	11.4		
Occupation				
Homemaker	130	61.9		
Self-employed	13	6.1		
Salaried	24	11.5		
Daily wage	17	8.1		
Agriculturist	26	12.4		

ECQ showed that 51 (24.3%) experienced high stress in their families due to the COVID-19 pandemic with an overall mean score of 2.6 ± 0.7 . PSS showed that parenting stress was high among the 42 (20%) in the study population with an overall mean score of 22.6 ± 6.6 . Similarly, the SDQ parent version showed only 10 (4.8%) parents reported that their children had moderate emotional well-being (Clinically significant) and 14 (6.7%) reported low emotional well-being (Highly Clinically significant) [Table 2].

Among the five scales of strength and difficulty questionnaire which contributed to the total difficulty score, we found that

the conduct problems were highly clinically significant among 54 (25.7%) children as reported by their parents. All the other scales such as the Emotional Symptoms, Hyperactivity, Peer Problem, and Prosocial Scales were clinically significant only in <10% of their children.

Further, significant associations were found between the effect of COVID-19 on family (ECQ score) and parenting stress. A Tukey *post hoc* test revealed that the ECQ score of participants with high parenting stress was statistically significantly higher than the participants with low levels of parenting stress and parent stress score was significantly high

Table 2: Distribution of effects of the COVID-19 pandemic on families, parenting stress, and emotional well-being of children

Stress levels	ECQ findings	PSS findings	SDQ findings
Low	105 (50%) (score <2.6)	105 (50%) (score <41.5)	186 (88.6%) (Score 0–13)
Moderate	54 (25.7%) (Score 2.6–3.2)	63 (30%) (Score 41.5–50)	10 (4.8%) (Score 14–16)
High	51 (24.3%) (Score >3.2)	42 (20%) (score >50)	14 (6.7%) (score >16)

Table 3: Association between family income, the effect of COVID-19 on family, parenting stress, and emotional well-being of children

Family income (mean±SD)	ECQ findings	PSS findings	SDQ findings	P
18014.29±6307.06	105 (50%) (score <2.6) Low	105 (50%) (score <41.5) Low	186 (88.6%) (Score 0–13) High emotional wellbeing	
14231.48±9423.33	54 (25.7%) (Score 2.6–3.2) Moderate	63 (30%) (Score 41.5–50) Moderate	10 (4.8%) (Score 14–16) Moderate emotional well-being	
11127.45±7235.22	51 (24.3%) (Score >3.2) High	42 (20%) (score >50) High	14 (6.7%) (score >16) Low emotional wellbeing	<0.001*

*One-way ANOVA test

among the participants who reported low emotional well-being for children [Table 3].

Bi-variate analysis shows that education and occupation were the risk factors predicted to be significantly associated with the effect of COVID-19 on family and parenting stress [Tables 4 and 5]. In addition to that, the gender of the parent was found to be significantly associated with parenting stress [Table 5]. No significant associations were found between the emotional well-being of children and other socio-demographic factors of the family.

Discussion

This study focused on the impact of the COVID-19 pandemic on the family, parenting, and emotional well-being of children in the villages of Mugalur sub-centre, Bengaluru. The study revealed that during the COVID-19 pandemic, 24.3% of study participants had high stress and 25.7% had moderate stress.

Collaborative research^[16] brief series on the impact of COVID-19 on families in India reported similar findings. However, as per a study conducted in Pennsylvania,^[17] only 10% of the families reported high stress during the COVID-19 pandemic, which is significantly less compared to our findings. The higher levels of stress experienced by families in India during the COVID-19 pandemic could be due to differences in the geographic, socio-economic, and cultural status of the study participants.

Further, health concerns, due to the rapid spread of the virus and a high number of cases in India may have contributed to increased stress and anxiety among families,^[18] particularly those with vulnerable members, such as the elderly,^[2] children or immunocompromised individuals.

In the present study, parenting stress was high in 20.0% of the study participants and moderate in 30.0%. This high proportion of parenting stress would have been because of disruptions in children's education and economic hardships during the pandemic.^[19] With schools and educational institutions being closed during the pandemic, children were left with limited social interaction, causing stress and anxiety to both the parents and the children.^[8] Most of our study participants belonged to the lower middle class, 90% of them being either self-employed or daily wage workers. Nationwide lockdown resulted in unemployment, financial insecurity, and threatened loss of loved ones. Click or tap here to enter text.^[5] Such increased stress in the family led to higher parenting stress levels, and disturbed interpersonal relationships.^[20]

Parenting stress showed a significant association with the gender of the parent and the occupation of the head of the family. Parenting stress can be a common experience for both mothers and fathers. However, research suggests that women often experience higher levels of parenting stress compared to men.^[21] Women are often expected to take on most of the caregiving responsibilities, both in the home and in society. Click or tap here to enter text.^[22] This can lead to women feeling overwhelmed and unsupported, which can contribute to higher levels of stress.^[21,22] Also lack of support from partners and work-life conflict are important contributors to increased parenting stress in women. Thus, societal expectations and gender roles can contribute to a disproportionate burden of stress on women.^[21]

Assessment of the emotional well-being of the children brought out that 11.5% of children had clinically significant problems. Home confinement along with the closure of schools has had strong negative impacts on the psychological well-being of children because of the unprecedented changes in the

Table 4: Association between ECQ On family and socio-demographic factors (n=210)

Factors	Stress due to COVID-19, n=210 (%)		Chi square ("P"<0.05)	Unadjusted Odd's ratio (95% CI)
	Moderate and High, n=110 (52%)	Low, n=100 (48%)		
Gender				
Male	23 (20.9)	41 (19.5)	0.469	0.456–0.482
Female	87 (79.1)	169 (80.5)		
Education				
No formal education	2 (66.7)	1 (33.3)	0.013	0.011 –0.016
Higher Secondary	17 (70.8)	7 (29.2)		
High school	47 (56.0)	37 (44.0)		
Degree	33 (44.0)	42 (56.0)		
Postgraduation	11 (45.8)	13 (54.2)		
Occupation				
Homemaker	63 (48.5)	67 (51.5)	0.003	0.002–0.005
Self-employed	4 (30.8)	9 (69.2)		
Salaried	12 (50.0)	12 (50.0)		
Daily wager	9 (52.9)	8 (47.1)		
Agriculturist	22 (84.6)	4 (15.4)		
Socio-economic status				
Lower	46 (60.5)	30 (39.5)	0.055	0.030–0.060
Lower middle class	56 (49.1)	58 (50.9)		
Middle	5 (41.7)	7 (58.3)		
Upper Middle class	3 (37.5)	5 (62.5)		
Type of family				
Nuclear family	74 (59.7)	50 (40.3)	0.098	0.090–0.106
Joint family	14 (30.4)	32 (69.6)		
Three generation family	11 (73.3)	4 (26.7)		
Extended family	11 (44.0)	14 (56.0)		
Number of children in the age group of 4-10 years				
One child	75 (54.7)	62 (45.3)	0.074	0.062–0.083
Two children	35 (47.9)	38 (52.1)		
Type of card				
BPL	5 (62.5)	3 (37.5)	0.522	0.512–0.531
APL	7 (41.2)	10 (58.8)		
No card	98 (53.0)	87 (47.0)		

lifestyle including limitations in physical activity and an increase in domestic conflicts along with a lack of opportunities for interaction with friends for mental comfort. Click or tap here to enter text.^[6] Recent studies have shown that any child who has been out of school for a substantial period was less active, has increased screen time, and tends to adopt unhealthy eating habits and unsteady sleep patterns.^[23] Many parents reported loss of children's routine (35%), loss of friends and children's community (12%), and loss of specialist input (11%) as the major issues both for children and family members.^[24]

The key finding of the present study was the significant association between COVID-19 pandemic resulting in high parenting stress levels, which in turn was associated with low emotional well-being in children. Spinelli *et al.*^[25] reported in their study that parents who reported more difficulties in dealing with quarantine showed more stress which in turn affected children as well. Children now only have their parents around them to provide educational and psychological support when necessary and promote the development and new learning experiences.^[26] Parents face the additional task of taking care of the psychosocial and educational environment of the children which was taken care of previously at schools and now face a hard time balancing

their work life and personal life.^[25,26] Thus, increasing the risk of experiencing stress and negative emotions in parents with a potentially cascading effect on children's well-being.^[27]

High parenting stress in a family can lead to deteriorating mental health and an increase in the incidence of other illnesses.^[28,29] Common psychological and behavioral problems can also arise in children with low emotional well-being.^[30] Children affected can be identified by early screening in classrooms by teachers. Such children should be initiated with behavioral therapy at the earliest. Counseling sessions can be arranged for families and children at the community level. Community Health Workers can identify and follow up such families in their respective villages. The government can make priorities to help such economically weaker families for their uplifting.

The present study adds significant evidence to the impact of COVID-19 on families. Strengths of the present study were the use of validated tools to assess the parental stress and emotional well-being of children and assessed all three parameters in which a family can be affected with correlations among them.

Table 5: Association between parenting stress and socio-demographic factors among study participants, *n*=210

Factors	Parenting stress <i>n</i> =210 (%)		Chi square “ <i>P</i> ”	Unadjusted Odd's ratio (95% CI)
	Moderate and High, <i>n</i> =105 (%)	Low, <i>n</i> =105 (%)		
Gender				
Male	21 (51.2)	20 (48.8)	0.003	0.000–0.010
Female	84 (49.7)	85 (50.3)		
Education				
No formal education	2 (66.7)	1 (33.3)	0.037	0.016–0.049
Higher Secondary	18 (75.0)	6 (25.0)		
High school	45 (53.6)	39 (46.4)		
Degree	28 (37.3)	47 (62.7)		
Postgraduation	12 (50.0)	12 (50.0)		
Occupation				
Homemaker	77 (59.2)	53 (40.8)	0.002	0.000–0.014
Self-employed	8 (61.5)	5 (38.5)		
Salaried	7 (29.2)	17 (70.8)		
Daily wager	7 (41.2)	10 (58.8)		
Agriculturist	6 (23.1)	20 (76.9)		
Socio-economic status				
Lower	35 (46.1)	41 (53.9)	0.133	0.109–0.168
Lower middle class	56 (49.1)	58 (50.9)		
Middle	7 (58.3)	5 (41.7)		
Upper Middle class	7 (87.5)	1 (12.5)		
Type of family				
Nuclear family	56 (45.2)	68 (54.8)	0.243	0.185–0.301
Joint family	32 (69.6)	14 (30.4)		
Three generation family	3 (20.0)	12 (80.0)		
Extended family	14 (56.0)	11 (44.0)		
Number of children in the age group of 4–10 years				
One child	66 (48.2)	71 (51.8)	0.089	0.062–0.093
Two children	39 (53.4)	34 (46.6)		
Type of card				
BPL	3 (37.5)	5 (62.5)	0.514	0.447–0.582
APL	10 (58.8)	7 (41.2)		
No card	92 (49.7)	93 (50.3)		

A limitation of the present study could be that the study did not focus on the status of COVID-19 infection among study participants but was focused on the effect of the COVID-19 pandemic. Further studies can be done to assess the mental health challenges that can be faced by these affected families to help them in providing medical care for them.

Conclusion

This study underscores the significant toll of the COVID-19 pandemic on rural families, revealing heightened levels of parental stress and consequential impacts on children's emotional health. The gender disparities in stress levels emphasize the need for tailored interventions, particularly to support women who often face greater caregiving responsibilities. Urgent efforts are required to address the mental health challenges faced by these families, including early detection, accessible counseling services, and community-based support programs. By prioritizing comprehensive interventions, we can foster resilience within families and mitigate the enduring effects of the pandemic on familial well-being.

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Conflicts of interest

There are no conflicts of interest.

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