

Research Article

Impact of COVID-19 on Emotional, Physical and Social Well Being of School Children and Parents: A Cross Sectional Survey

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Abstract

Background: In this COVID-19 pandemic era, complete shut-down/ Lock down of the entire world and almost all the countries has led to an impact on almost everyone, especially school children. **Aim:** The aim of the study was to evaluate the psychological impact of COVID-19 on emotional, physical and social well-being of school children and their parents, with an objective to assess the prevalence of COVID-19 vaccine, income, depression, anxiety, well-being, and other psychological issues.

Materials and Methods: It was an online survey questionnaire in English language which was conducted through a survey link (google form) and was sent through WhatsApp, to the parents of different school children of Ranchi city, Jharkhand, India, in the year 2021. The link was designed in such a way, that only 1 response can be generated using one device.

Results: Males had more behavioral change as compared to female students. The change in behavior is seen in high percentage in government school children in comparison to private school children. School children had negative effect on death of close relatives.

Conclusion: The present survey suggests that more than half of the school children and their parents were experiencing stress and other behavioural changes due to lockdown and the prevailing COVID-19 pandemic. The students are finding out ways to deal with such uncertain situation and trying hard to adjust with the new normal.

Keywords: COVID-19; Online Study; Depression; Stress; School Students

Introduction

One of the most important challenges in today's era for survival is facing a pandemic of an infectious disease of the COVID-19 type [1]. The World Health Organization (WHO) declared COVID-19 as a pandemic on March 11, 2020 [2]. For the management of rapid rise of cases in India national level "lockdown" was declared starting from midnight of March 25, 2020 initially for 21 days, which was later extended up to May 3, 2020 [3-5]. Despite of creating massive health uproar, the pandemic also seems to have affected economic, mental, and social well-being of general population [6-8]. Man being a social animal, such restrictions on free movements can lead to anger, frustration, loneliness and depressive symptoms [9-11]. There was fear/apprehension among the public related to supply of basic amenities like groceries and milk, medicines, sick family members, elderly persons staying alone in far places, all these things caused a feeling of house arrest [12-14]. In pre-pandemic situation, all these were mere nightmare since everything was very much available along with the movement of people and their social and emotional wellbeing was not hampered. The aim of this study was to evaluate the psychological impact of COVID-19 on emotional, physical and social well-being of school children and their parents, with an objective to assess the prevalence of COVID-19 vaccine in parents, income status of parents, depression and behavioral changes among school children and other issues. To the best of our knowledge, this study is among the first to examine the impact of the COVID-19 lockdown

on school children and their parent's emotional well-being, behavior and lifestyle.

Methodology

Study Design and Settings

It is a questionnaire-based study since in this COVID time, the collection of data through personal contact and manually has proved to be a challenge due to the lockdown and social distancing protocols. So, an online survey was conducted by a survey link (Google Form), which was circulated using WhatsApp.

Inclusion Criteria

1. Both government and private sector school students were included
2. Students of Ranchi city were only included
3. Smart phones with good network facilities in the area was prerequisite for the survey
4. Students between 6-17 years of age were included

Exclusion Criteria

1. No particular brand of vaccine was asked by the parents who were vaccinated
2. Only nonvaccinated school children were included as at the time of survey of this study, the vaccination for the children from 15-18 years was not present in India
3. Since the questionnaire format in the survey is in English language, only those individuals are included who can understand and answer the questions without any difficulty
4. Individual with cognitive or physical impairment are excluded in the survey

Study Participants and Sampling

Through simple random sampling method, the school children were in the age group of 6-17 years. The sample size was obtained as per the convenience, out of 500 responses, completely filled 336 responses were included in the study. The questions were asked about the Socio Demographic Variables of Participants, vaccination and COVID status of parents, COVID status of school students, changes in behavioural parameters of children and effect of different factors on change in behavior of students.

Data Collection Tool and Technique

The survey had a set of questionnaires was in English language. The link was designed in such a way, that only 1 response can be generated using one device, which was sent to the parents of different school children of Ranchi city Jharkhand, India, in the year 2021. The questions were primarily asked to the parents of the school students, about their profession, whether family members were infected with COVID-19, status of vaccination, hospitalization, recovery time period, behavioral changes in children during pandemic, how online classes were helpful, hobbies, screen time etc.

Result

The study tries to find out the impact of various variables on the mental health of students during COVID-19. Chi square test was done to evaluate the result.

The Sociodemographic Parameter

There were 230 males and 106 female students included in the study. The students included in study were in primary school (28.0%), Middle school (34.8%), High school (29.2%) and secondary schooling level (8.0%). They also belong to different type of schools, both government (25.30%) and private (74.70%) (Table 1).

The COVID Status of Student

Table 2 shows 6.25% students included in the study had been suffered from the COVID. The severity of infection ranges from mild (2.67%) to severe (0.89%) and 12 students were admitted to the hospital due to infection. 4.64% participants had taken more than 14 days to recover while 1.79% participants had taken less than 14 days to recover from COVID infection.

The COVID and Vaccine Status of Parents

In Table 3, among the parents of school students, 48% was vaccinated at the time of survey. 10.41% parents included in the study had been suffered from the COVID. Most of the parents had suffered from the disease before taking vaccination. The severity of infection ranges from mild (3.87%) to severe (2.38%) and 6.55% parents of students were admitted to the hospital due to infection. 7.44% participants had taken more than 14 days to recover while 2.98% participants had taken less than 14 days to recover from COVID infection. Majority of parents (78.5%) had accepted that there is negative impact on earnings due to pandemic.

The behavioral effect of COVID on children (Table 4, Fig. 1). Majority of parents (90.77%) feel that physical activity of your child / children has been hampered and 65.18% feel COVID -19 pandemic had brought changes in behavior of their ward. 46.13% children are spending more times in their laptops and mobiles and 71% parents think that their keenness towards their study has been decreased, 58.9% parents thought that their wards sleeping pattern has been disturbed, 49.11% thought that food habits of their wards had been disturbed and 40.18% parent feels that the students are more isolated due to closure of school and not keen to participate in group activities. 75.89% feels that their ward had drifted away from his/her hobbies as they indulge more time in screen.

Cause of Change in Behavior Pattern in Children

The study shows significant percentage of male students were more as compared to female students. In our study significant number of parents were professional as compared to semiskilled, skilled, or farmers. The change in behavior is seen in high percentage in government school children in comparison to private school children. Parents and children affected with COVID, or admitted to hospital because of COVID -19, had severely affected by the behavior of children and the death of close relatives also had negative effect in the behavior of children. The status of vaccination and earning of parents were affected. (Table 5). When asked about behavioral changes in school children, about 65.18 % showed drastic changes (Fig. 2) as compared to 34.8% who showed no changes in behavioral pattern (Table 5, Fig. 2).

Discussion

The Findings of the present study (Table 1) shows maximum number of students are studying in private school (74.7%) rather than government school (25.3%), which showed that due to good teaching facilities, providing online classes along with many newer teaching aids for school students which made parents more keen to send their children in private schools rather than public sector schools. Our results are supported by many available articles which have reported positive aspects of lockdown such as improvement in air quality/healing of nature making people realize value of re-connecting with 2 families and improvement in family relationships [15-19]. Another explanation for the improved relationship could be a fear of death of family members or even themselves, which often makes people perceive themselves as weak [20].

Moreover, in this COVID pandemic, private sector schools have emerged out to be more beneficial for the students in academics as compared to teaching in government schools [3,4].

Although maximum children were in their home during lockdown, Table 2 shows, 6.25% school students were COVID -19 positive. This showed that despite of lockdown where schools were completely closed, students were still infected either from their parents or relatives who were COVID -19 positive and came in contact with them. The severity of infection ranges from mild (2.67%) to severe (0.89%) and 12 out of 336 students were admitted to the hospital due to COVID -19 infection. 4.64% participants had taken more than 14 days to recover which may be attributed by the fact that poor immunity, no vaccination for children, lack of medical facilities at many places. However, morbidity is seen lesser in children as compared to adult.

Vaccination played a crucial role in this COVID pandemic. At the time of survey of our study, only few parents were vaccinated. In Table 3, among the parents of school students, 48% was vaccinated at the time of survey. 10.41% parents included in the study had suffered from COVID-19 infection. Most of the parents had suffered from the disease before taking vaccination. The severity of infection ranges from mild (3.87%) to severe (2.38%) and 6.55% parents of students were admitted to the hospital due to infection. The study showed that maximum number of parents took more time to recover, the reason might be because of not maintaining government approved COVID protocol, persons who were in direct contact with patients like doctors, nurses and other health workers, in adequate supply of medicines or improper treatment facility. Lockdown has drastically affected the

income of people specially daily wage or business men, many had lost job and almost closed their business, because of this pandemic. Thus, there is negative impact on earnings due to pandemic.

Due to lockdown in India, the schools were closed almost for a year. This had led to a major change in a behavioral pattern in children pan India, which was a major concern for parents. Unable to move out of their houses or play in play ground or stadium or locality, which had led to mental stress among children (Table 4) [4,5]. As academic schedule was through online all through the year, the daily rate of screen use has increased significantly in students as compared to before lockdown. This led to addiction of games on screen in children. The sleep pattern has been disturbed in the children because of prolonged screen time and improper daily schedule because of the timing of these online classes are different from the normal school schedule, there has been lack of awareness in sleep schedule. 49.11% students had disturbed food habits, which may be attributed by the fact that disturbed sleep schedule, lack of physical activity and more sedentary life may lead to obesity and other health related problems in early age.

In our study 40.8% of school students showed mental abnormality like feeling of isolation or loneliness, which may be attributed by the fact that lockdown as made a lot of restrictions on children. They were unable to meet with their friends, no outdoor games, very restricted physical activity. More over only laptop, mobiles, television had made children more irritable as compared to children in non-COVID era. Because of these habits, 75.89% students had drifted from their hobbies and other daily coarse which they used to do before lock down. Whereas only 24% students still continue with their daily routine. Since parents, grandparents and relatives were all spending more time with each other than before, more positive and happier mind were seen among children.

Online studying has brought major changes in the study pattern since one year till now, websites like Zoom, Google meet, Webex etc. have played an important role in this. Only 36% Parents think that online study is very useful, the reason behind this might be due to, firstly, no waste in time policy, child need not to move from house to go to tuitions or coaching institute, secondary, teachers of all subjects from far and near, different states/ places are now available at a one click. students sitting in Ranchi can now take classes from good teachers from Lucknow/ Kota. Thirdly, Parents can also attend their classes and have a look on their child about their subject and food habits, and depression like disease can be controlled.

However, 23 % parents think that online study was not at all helpful. The reason may be attributed by the fact that, student's concept and doubts were not made clear in the online classes. Minute things cannot be assessed properly in web cameras, the writing mode and exam pattern were highly demotivating for students. Our study evaluated that, (Table 5 and Fig. 2) male students had more negative impact of pandemic and lockdown as compared to female students. The reason may be attributed by the fact that, male child is more inclined to play outdoor games with friends as compared to their counterpart. Female child is more inclined in studies and to help their parents/ relatives in house hold cores than male child.

Government school children had more negative impact of COVID-19 as compared to private school children. The fact attributed to it may be due to inability to join online studies, because primarily, not all government schools have internet facility especially in rural areas, secondary the parents cannot effort android phones or laptops or other gadgets. The reason behind this is due to monetary scarcity, since many had lost their jobs because of pandemic. These problems were less faced by private school students as compared to government school students. Our study shows that death of family members or relatives due to COVID -19, had led to a significant impact on emotional and mental wellbeing of both students and parents. Low income or unemployment had also affected drastically on emotionally on family members. Despite improvement in the interpersonal dimension, there was increase in the prevalence of negative emotions such as sadness, loneliness, anxiety, frustration, and fear and apprehension in about nearly half of the participants. People had significant stress with fear of getting infected with COVID-19 infection, always wore masks and protective equipment even in open spaces, invested majority of their time reading or watching COVID related facts, had anxiety when dealing with febrile patients/family members. The survey was limited to those, who had access to a smart phone device and it can be said that the study participants may not be representative of people from various strata of the country. However, considering the situation, this was the possible best methodology to reach to the people to understand the psychological impact. The small sample size and limited method for collection of samples are the limitations of this study. Larger sample size and if done nation-wide, would provide a more representative data.

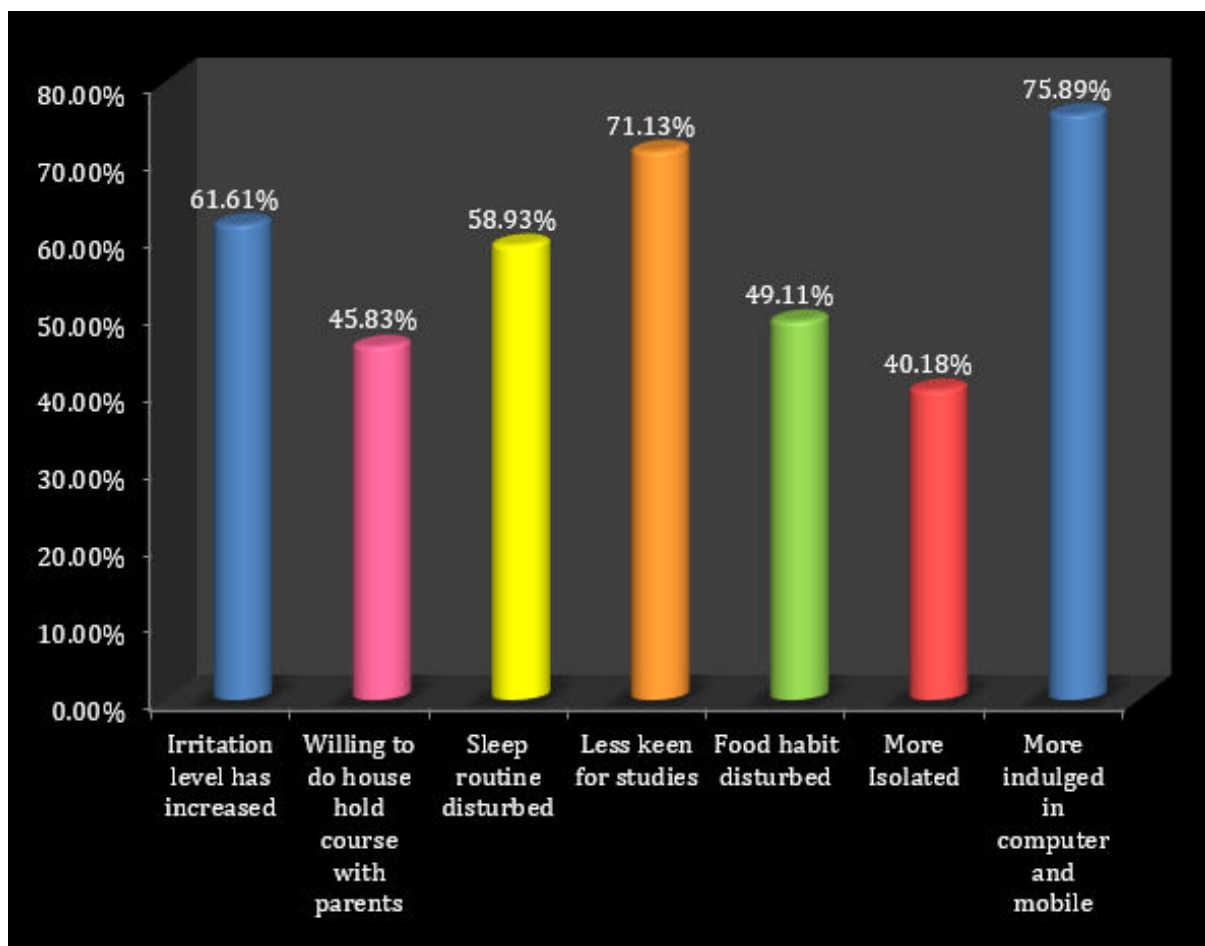


Figure 1: Types of Behavioral changes in students during COVID-19 pandemic.

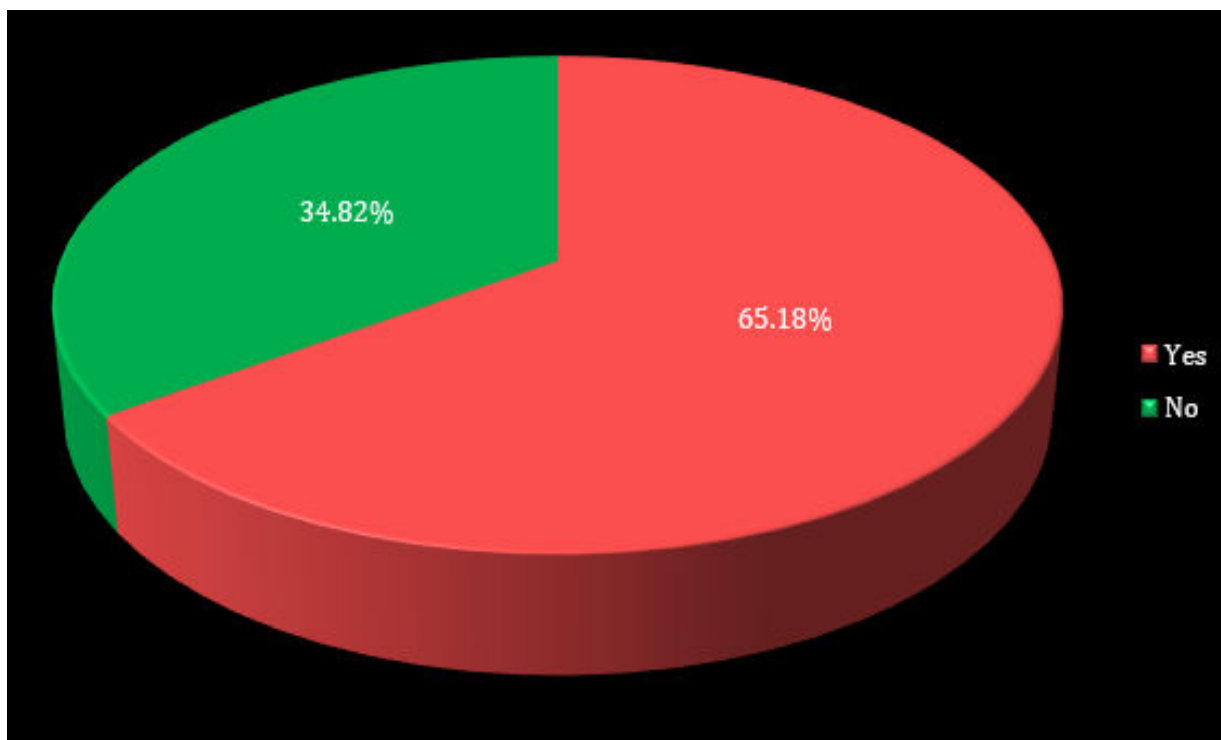


Figure 2: Did COVID -19 pandemic has brought changes in behavior of children.

Parameter	Responses	N	%age
Gender	Male	230	68.5%
	Female	106	31.5%
Level of Schooling	Primary	94	28.0%
	Middle	117	34.8%
	High	98	29.2%
	Secondary	27	8.0%
Profession of Parent	Professional	45	13.39
	Semi Professional	89	26.48%
	Shop/clerical/Farm	117	34.82%
	Skilled worker	34	10.11%
	Semi skilled worker	41	12.20%
	Unskilled worker	0	0%
Type of school	Government	85	25.30%
	Private	251	74.70%

Table 1: Socio demographic variables of participants.

Parameter	Responses	N	%age
Student infected with COVID	Yes	21	6.25%
	No	315	93.75%
Severity of Infection	Mild	9	2.67%
	Moderate	9	2.67%
	Severe	3	0.89%
Hospitalized due to infection	Yes	12	3.57%
	No	324	96.43%
Time to recover from infection	More than 14 days	15	4.64%
	Less than 14 days	6	1.79%

Table 2: COVID status of participants.

Parameter	Responses	N	%age
Level of Vaccination	Non-Vaccinated	175	52.0%
	Single Dose	122	39.4%
	Double dose	29	8.6%
Any of Parents infected with COVID	Yes	35	10.41%
	No	301	89.59%
When you had Become covid Positive	Not taken vaccine	18	5.36%
	Before taking	14	4.17%
	After taking	3	0.89%
Any friend /relative/family member who died of covid 19 pandemic	Yes	59	17.56%
	No	277	82.4%
Severity of Infection	Mild	13	3.87%
	Moderate	14	4.17%
	Severe	8	2.38%
Are you Hospitalized due to infection	Yes	22	6.55%
	No	314	93.45%

Time to recover from infection	More than 14 days	25	7.44%
	Less than 14 days	10	2.98%
Negative impact on earning	Yes	264	78.57%
	No	72	21.43%

Table 3: Vaccination and COVID status of parents.

Parameter	Responses	N	%age
Do you feel physical activity of your child / children has been hampered	Yes	305	90.77%
	No	31	9.23%
Do you feel Covid -19 pandemic has brought some changes in behavior of your ward	Yes	219	65.18%
	No	117	34.82%
Where did he/she spends more time	In Family	49	14.58%
	In Studies	77	22.92%
	In Mobile/laptops	155	46.13%
	Any other Hobbies	55	16.37%
Any Behavioral changes in child	Irritation level has increased	207	61.61%
	Willing to do house hold course with parents	154	45.83%
	Sleep routine disturbed	198	58.93%
	Less keen for studies	239	71.13%
	Food habit disturbed	165	49.11%
	More Isolated	135	40.18%
Do you feel your ward has drifted away from his/her hobbies as they indulge more time in screen	Yes	255	75.89%
	No	81	24.11%
How do you feel online classes are helpful for your ward during the lockdown?	Very Helpful	121	36.01%
	Moderately Helpful	137	40.77%
	Not at all Helpful	78	23.22%

Table 4: Changes in behavioral parameters of children.

Parameter	Responses	Yes	No	Chi square Value	P-Value
Gender	Male	162	68	17.63	0.001*
	Female	57	49		
Level of Schooling	Primary	70	24	45.39	0.001*
	Middle	54	53		
	High	60	38		
	Secondary	25	2		
Education of Parent	Professional	20	25	52.75	0.001*
	Semi Professional	44	45		
	Shop/clerical/Farm	64	53		
	Skilled worker	23	11		
	Semi-skilled worker	33	8		
	Unskilled worker	0	0		
Type of school	Government	77	14	28.92	0.001*
	Private	142	103		

Student had infected with COVID	Yes	20	1	98.89	0.001*
	No	199	116		
Effect of Hospitalization	Yes	12	0	119.98	0.001*
	No	207	117		
Parents infected with COVID	Yes	34	1	93.77	0.001*
	No	189	116		
Effect of Hospitalization of parent	Yes	22	0	117.68	0.001*
	No	212	117		
Effect of vaccination of Parents	Non-Vaccinated	114	61	4.75	0.17
	Single Dose	75	47		
	Double dose	18	11		
Negative impact of earning of parents	Yes	182	82	9.41	0.03*
	No	37	35		
Death of any close Relatives	Yes	51	8	85.21	0.001*
	No	168	109		

Table 5: Effect of different factors on change in behavior.

Conclusion

Staying home or work from home also showed a new phase in the life of every individual who used to work in offices/ institutions. The present survey tries to find out the cause of change in behavioral pattern in school children and their parents, which suggests that more than half of the school children and their parents were experiencing stress and other behavioral changes due to lockdown and the prevailing COVID-19 pandemic. The limitation of this study is since the questionnaire was only in English language so it became difficult for few parents to understand it. Larger sample size could be helpful in future prospective for further studies. Although students are finding out ways to deal with the uncertain situation for example, creating a schedule for studies, daily activities, getting involved in developing a skill, increasing use of social media for entertainment as well as to gain knowledge about safety measures, thus both parents and students are trying hard to adjust with the new normal.

Ethical Consideration

Since it was an online questionnaire, not related to any institution or department, so ethical clearance was not required.

Conflict of Interest

The authors have no conflict of interest to declare.

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