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Original Research Article

Psychological impact and development of autistic traits in children during the COVID 19 Pandemic: A study through Guardian

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ABSTRACT

Background: The COVID 19 pandemic has significantly affected people's lives worldwide. Although children may not experience severe physical symptoms of the disease, their psychological well-being can be greatly affected. The primary objective of this study was to examine the psychological impact of COVID-19 on children residing in the Kashmir valley in terms of evolution of autistic traits in them.

Materials and Methods: Cross-sectional study was conducted amongst 300 family members of children aged between 4 to 16-years. Data was collected through an online questionnaire using Google Forms and purposive sampling technique was used to assess autism. The sample for the study consisted of children in the 4 year to 16-year age group.

Tools used: A self-designed validated questionnaire in Google Form was used to collect the information. Chidhood Autism Rating Scale-2 (CARS-2) was used in those with excessive mobile phone usage.

Results: The results of the study revealed that only 3% of the children were infected with COVID-19. 7% of the sample reported that a close family member of a child was infected. Furthermore, 76% of the sample reported that they discussed COVID-19 with their children. In terms of behavioral changes, 54% of the sample noticed a change in their child's behaviour during the COVID pandemic. Additionally, 51% reported a change in their children's learning patterns, and 48% reported that their child had become possessive about new things since the pandemic. Furthermore, 35% of the sample reported a change in their child's sleeping cycle, 22.7% reported a loss of appetite, and 56% reported that their child imagined and talked about COVID-19 with others. It was also found that 80.3% of the sample had adhered to COVID-19 precautions. Only 4.3% reported negative thoughts expressed by their children since the pandemic, while 88% reported that their children were ready to discuss in future COVID-19. In the 4 to 6 year age group, out of 12 children with excessive mobile phone use, it was found that two were having symptoms consistent with Autism Spectrum Disorder. Other common symptoms noticed in this age group were found to be clapping, single verbal sounds, inability to express needs, moderate abnormal listening response, echolalia and video dialoguing.

Conclusion: Most families reported that their children were possessive about new things and most of them were not sitting at one place for a long time. A large percentage of families reported that they found changes in the sleep pattern and duration of sleep was more than 9 hours. It was also found that screen time during COVID-19 increased among school-going children.

1. Introduction

Coronavirus disease 2019 (COVID-19) has been defined by the WHO as an illness caused by Severe Acute Respiratory Syndrome- Coronavirus (SARS-CoV-2) Virus.[1] It was first

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identified amid an outbreak of respiratory illness cases in Wuhan City, Hubei Province, China, and was initially reported to the WHO on December 31, 2019. On January 30, 2020, the WHO declared the COVID-19 outbreak as a global health emergency and was labelled a pandemic.[2] This pandemic has affected all of us directly or indirectly and this study was planned to understand its psychological effect on mothers and children. There was restriction in meeting and social gathering that resulted in changes in behaviors, emotions, daily activity, cognitions, thinking etc.[3,4] Although there has been a huge body of literature published on the physical aspects of the disease, the psychological aspect of Lockdown and Quarantine imposed during the pandemic was less studied, more so in children. Our study was an attempt to understand the psychological and emotional implications of the prolonged absence from school and peer group interaction.

2. Materials and Methods

2.1. Design

The nature of this research was descriptive and both qualitative and quantitative approach was followed.

2.2. Sampling techniques and sample

In the present study purposive sampling technique was used.

2.3. Tools used

1. Socio-Demographic Data and Survey Tool: This questionnaire was developed by examiner to understand details as follows: age, gender, religion, type of family, education etc. and to check variables of psychological impact, Google form was developed.
2. Childhood Autism Rating Scale-Second Edition (CARS 2) developed by Eric Schopler, Mary Van Bourgondien, Glenna Wellman, Styeven Love (2010)[5] was used to assess' autism features among those who used excessive screen time.

2.4. Procedures

The study involved interviewing 300 participants through Google Forms. The study sample comprised children aged between 4 and 16 years.

2.5. Data analyses

Descriptive statistics and interpretive phenomenology were used to explain results. Findings are reported with the help of tables and graphs which are as follows.

3. Results

65.2% of the total sample were males and 34.8% were females (Figure 1). Regarding age distribution, 32% were

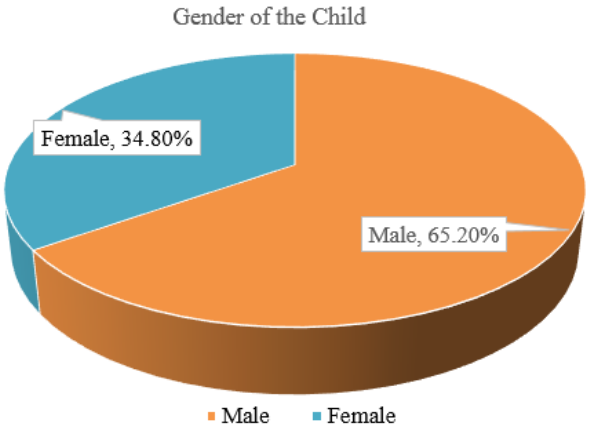

Figure 1: Gender Distribution of the children of respondents.

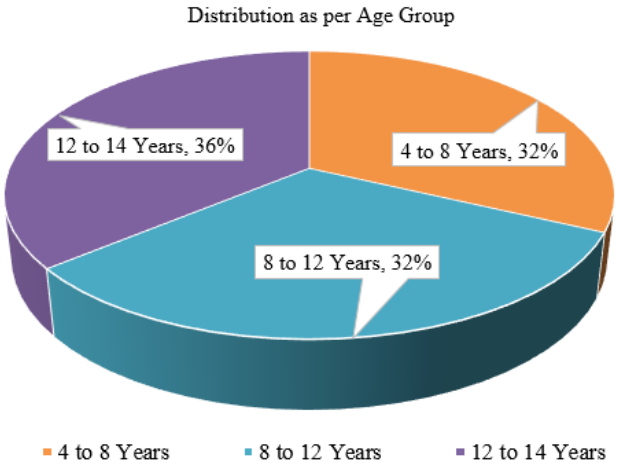

Figure 2: Age distribution of the children of respondents.

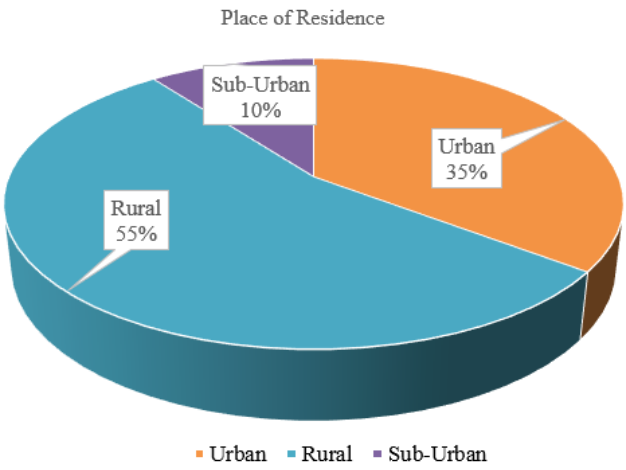

Figure 3: Residence of the respondents

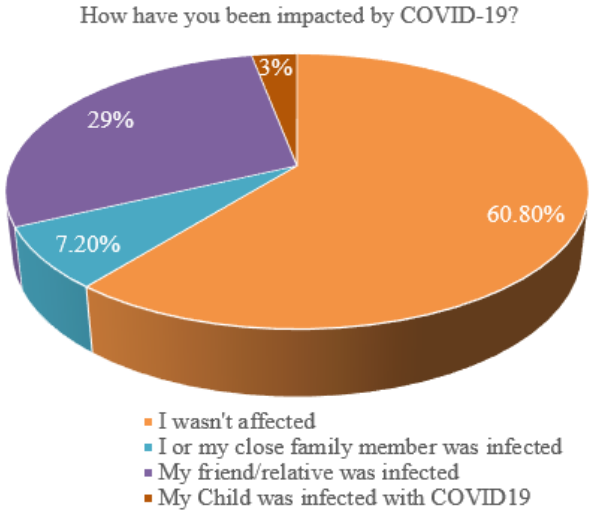

Figure 4: Infection with COVID19 reported.

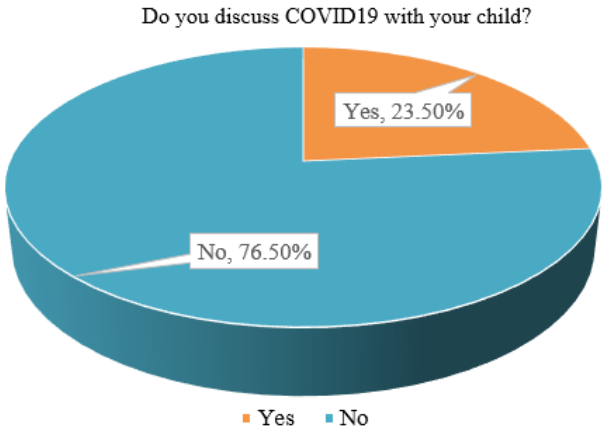

Figure 5: Discussion of COVID19 with children

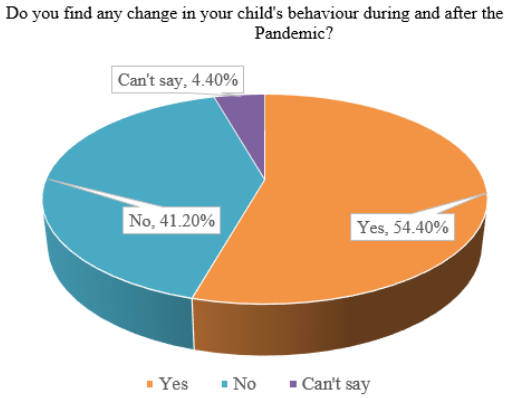

Figure 6: Behavior change in children.

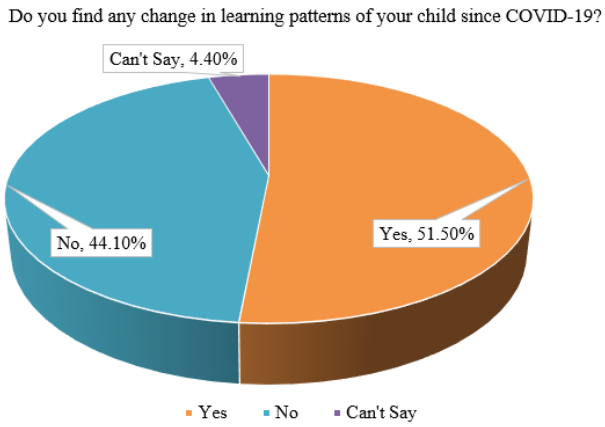

Figure 7: Change in learning pattern of children.

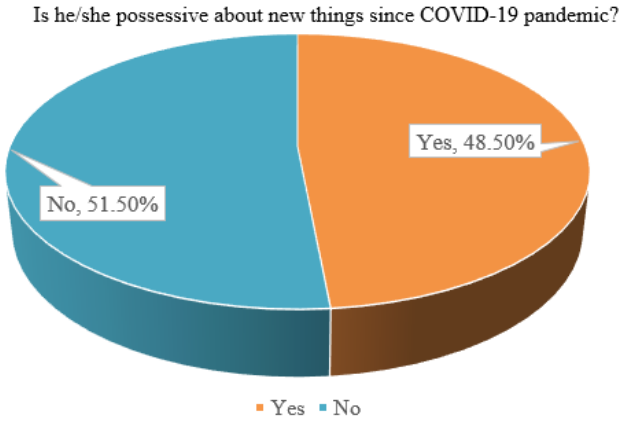

Figure 8: Possessiveness trait amongst children.

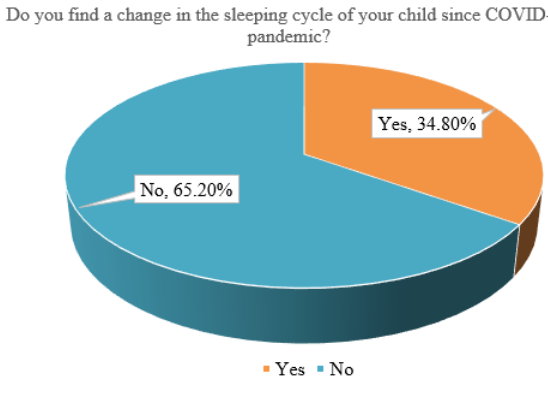

Figure 9: Change in the sleep pattern.

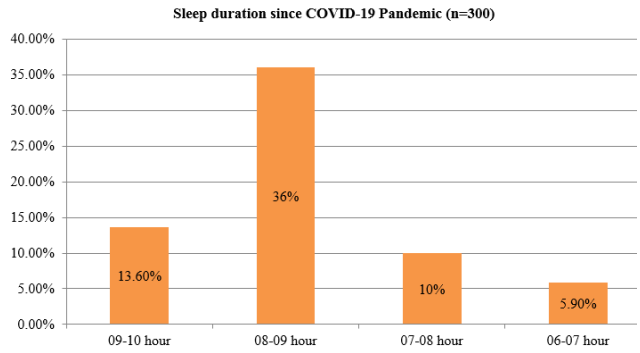

Figure 10: Duration of sleep

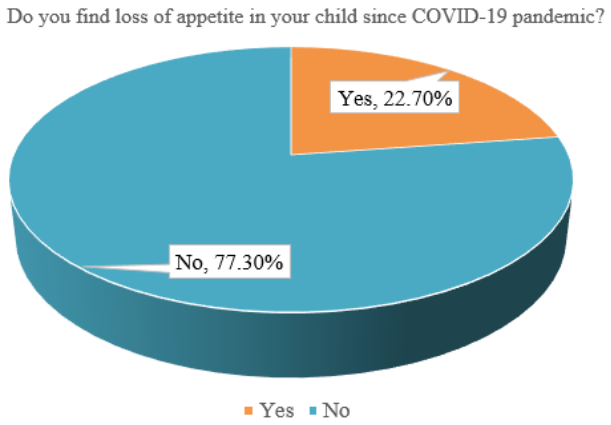

Figure 11: Loss of Appetite.

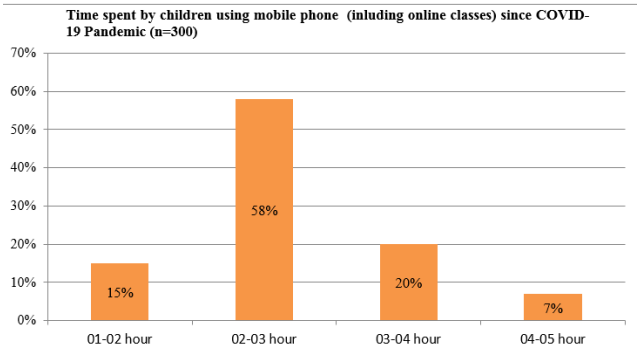

Figure 12: Time spent with mobile phones.

within the 4-8 years age group, another 32% fell into the 8-12 years bracket, and 36% were aged 12-14 years (Figure 2). In terms of residency, 54.4% of the total sample hailed from rural areas, 35.3% from urban areas, and 10.3% from suburban areas (Figure 3).

3% of the total sample reported that their child was infected by COVID-19, whereas 7% of total sample reported that either they themselves or a close family member was infected by COVID-19. 29% of total sample reported

Table 1: Use of childhood autism rating scale in different age groups.

Age Range	Tool Used	Clinical Features	Diagnosis
6-16 years	CARS HF	a). Flat excessive or frequently inconsistent with situation. b). Minimal imitations of conversation during interaction. c). Eye contact is not integrated with verbalization.	Nobody among this group was fit for diagnosis of Autism.
0-6 years	CARS 2 ST	a). clapping or single verbal sounds. b). Unable to express needs. c). Moderate abnormal listening response d). Echolalia e). Video dialoguing	Out of 12 it was found that 2 were having "Severe Symptoms of Autism Spectrum Disorder"

a friend/relative who was/were infected by COVID-19 (Figure 4).

Only 23.5% of the respondents acknowledged that they discussed COVID 19 with their children while 76.50% did not (Figure 5). As far as the psychological impact of COVID 19 was concerned, 54% of the total sample reported that they found a change in their child's behavior during the COVID-19 pandemic (Figure 6). Common symptoms included irritability and inattention. 51% of total sample reported that they found a change in the learning pattern of their child since COVID-19 pandemic began (Figure 7), 48% of the total sample reported that they found a change in their child being more possessive about new things and exhibiting behavior traits like not sitting at one place for a long time (Figure 8).

Figure 9 shows 34.5 % of the total sample reported that they found a change in the sleeping pattern of their child since COVID-19 pandemic began; 13.6% of total sample reported their child's sleep between 9 hours to 10 hours, 36% of total sample reported the child's sleep between 8 hours to 9 hours (Figure 10). 22.7% of total sample reported loss of appetite in children since COVID-19 pandemic (Figure 11).

Figure 12 depicts that 15% of the sample reported children spent between 1 hour to 2 hours using mobile phone including online classes. 58% reported children spent between 2 hours to 3 hours, 20% spent between 3 hour to 4 hours and 7% of the total sample reported spent between 4 hours to 5 hours with mobile since COVID-19 pandemic. 11% of total sample reported that their children spent less than 2 hours' time in watching television while the rest

reported more than 2 hours.

56% of the total sample reported children imagine and talk about COVID-19 with other children. 80.3% of the total sample reported children adhered to the precautions of COVID-19. 52.5% of the sample reported children talking about new things since COVID-19 pandemic. However 4.3% of total sample reported expression of negative thoughts by children, 13% of reported anxiety, 20% of reported children with stress related symptoms.

88% of total sample reported children talking about future amidst COVID-19 pandemic. When the Childhood Autism Rating Scale (CARS) tool was used to assess the likelihood of development of Autism, amongst 12 children from age range of 0-6 years, two children's were having severe symptoms of Autism Spectrum Disorder due to excessive use of mobile.

4. Discussion

The study was conducted to assess the various parameters which influenced the psychological behavior of children in Kashmir during the COVID 19 pandemic and the subsequent lockdown. Most respondents' children were from age group of 12 – 14 years which marked 36% that is 108 of total sample reported. Out of the total sample reported, it was found 3% (9 children) were infected with COVID19, 7% respondents' close family member was infected and 9% reported a friend/relative being infected by the COVID-19.

54% of total sample reported that they found a change in their child's behavior during COVID-19 pandemic and common symptoms included irritability and inattention. Similar findings were reported by Verlenden et al., (2021)[6] while assessing association between children's mode of school instruction and well-being during the COVID-19 pandemic in United States.

51% of the entire sample indicated noticing a shift in their children's learning patterns since the beginning of COVID-19, while 48% noted their child exhibiting heightened possessiveness towards new things, along with behaviors such as restlessness and difficulty staying in one place for an extended period. Patrick et al., 2020[7] reported that families were facing a new landscape from COVID-19 challenges.

It was also found that there was a change in the sleeping pattern of the children due to the pandemic with 103, that is 34.5% sample reporting the same. Shen at al., 2020[8] indicated that as compared to adults, the pandemic may continue to have increased long term adverse consequences on children and adolescents.

There is also a suggestion of change in the learning pattern of the children as the closure of schools has resulted in their exposure to the digital platform with 174 (58%) children spending 2- 3-hour time on mobile with online classes, 20% reported children spending between 3 hours to 4 hours, 7% reported spending between 4 hours to 5 hours on mobile with online classes since COVID-19 pandemic. Similar findings were reported by Bates et al.[9] and Maugeri et al[10] while assessing COVID-19 impact on behaviors across 24 hours in children and adolescents which included physical activity, sedentary habits, and sleep.

80.3% of the total interviewed sample reported their wards adhering to COVID-19 precautions. Half of the respondents reported children imagine and talk about COVID -19 pandemic with other children. Multiple studies have found that the lockdown measures such as travel restrictions, closing of educational institutions, restrictions in social interaction and sports activities have led to negative feelings, stress related symptoms, emotional distress, anxiety, fear, loneliness amongst children. Jiao et al in 2020[11] reported uncertainty, fearfulness, isolation,disturbed sleep, nightmares and poor appetite as predominant behavioral and emotional changes seen in children during the pandemic. Additionally, research findings indicate that children and adolescents exhibit a higher prevalence of psychological issues during quarantine compared to non-quarantined individuals, with a statistically significant contrast in psychological problems observed during interviews.[12] These subjects display various symptoms including emotional disturbance, depression, irritability, insomnia, post-traumatic stress symptoms, low mood, anger, and emotional exhaustion. Such studies have been conducted earlier and showed similar results.[13,14]

Subsequent to the quarantine period, there have been reports of lasting behavioral changes such as mask-wearing, adhering to social distancing norms, and maintaining regular hand hygiene.[15] Nevertheless, it is observed that children and adolescents who were not subject to quarantine exhibit heightened levels of stress during the COVID-19 pandemic. Studies also indicate a significant proportion, ranging from approximately 13% to 45%, of school-aged children and adolescents in India experiencing psychological distress[16,17] Hence, there is an imperative to prioritize the mental well-being of susceptible children through a collaborative effort involving parents, educators, counselors, and psychologists. In our study it was found that due to excessive use of mobile two children were having symptoms of Autism Spectrum Disorder. Similar finding has been reported by Heffler KF.[18]

5. Conclusion

Most families reported that their children were possessive about new things and most of them were not sitting at one place for a long time. A large percentage of families reported that they found changes in the sleep pattern and duration of sleep was more than 9 hours. It was also found that screen time during COVID-19 increased among school-going children.

6. Limitation of study

1. Sample size was small for generalization.
2. Sample was taken only from a small geographic area with limited ethic and cultural variability.

7. Source of Funding

None.

8. Conflict of Interest

None.

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