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Effect of Covid 19 Lockdown on Psychosocial Aspects of Children

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Abstract

Background and aims:

Covid-19 pandemic and lockdown has brought about a sense of fear and anxiety around the globe. This phenomenon has led to short-term and long-term psychosocial, mental, and physical health implications for children, adolescence, and adults. This study was planned to see the various psychosocial and behavioral effects like sleep patterns, eating habits, extracurricular activities, school closure, electronic gadgets, and internet usage, etc. in children during the lockdown.

Material and method:

The prospective analytical study was carried out at a tertiary care center over a period of 6 months from July 2020 to December 2020 with a sample size of 100 children, aged between 6 to 12 years. A pre-designed standardized questionnaire regarding the various psychosocial effects of lockdown on children was prepared. Data were analyzed and summarized via using an appropriate statistical test using Microsoft Excel 2019. The Chi-square test was applied and a p-value of <0.05 was considered significant.

Results:

There was a significant increase in the daytime and night-time sleep, electronic gadgets and internet usage duration, change in an eating pattern during the lockdown as compared to before lockdown in children with a significant p-value of <0.05. Out of 100 children, 62% were attending the online classes regularly. During the lockdown, 52% of children had reported weight gain due to their change in eating habits and more sedentary lifestyle. The most common behavioral problems observed were nocturnal enuresis (46%), nightmares (33%), and anger tantrums (20%).

Conclusion:

The lockdown has made a significant impact on the psychosocial and behavioral aspects of the growing brain of children.

Keywords: *Lockdown, Psychosocial and behavioral aspects, Children*

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I. Introduction:

Covid-19 pandemic and lockdown have brought about a sense of fear and anxiety around the globe. This phenomenon has led to short-term as well as long-term psychosocial, mental, and physical health implications for children, adolescence, and adults as they were confined to the home and over and above it, many families have lost their source of income due to covid-19[1].The global lockdown crisis caused by the pandemic made many children have problems with access to education, healthcare, housing, nutrition, sanitization to water. Schools for more than 168 million children globally have been completely closed for almost all an entire year, due to the covid-19 lockdown[2]. Nearly 14 million children did not receive any vaccine in 2019[2]. This study was planned to see the various psychosocial and behavioral effects of lockdown in children.

II. Objective And Methodology:

The prospective analytical study was carried out at a tertiary care center at civil hospital, Ahmedabad over a period of 6 months from July 2020 to December 2020. The objective of our study was to study the various effects of COVID 19 lockdown on a child's various psychosocial and behavioral aspects, day-to-day work, school, sleep, eating habits, internet, and electronic gadgets usage. A total of 100 children was included in the study during this period. The children aged 6 to 12 years old, and those who came for consultation or immunization in Out Patient Department or were admitted in a pediatric ward for some illnesses were included in the study. A predesigned standardized questionnaire regarding the various psychosocial effects of lockdown on children was prepared. These predesigned closed questions were asked to child and parents and their responses were filled up in the questionnaire forms. Performa was consisting of questions regarding the effects of lockdown on sleep, eating habit patterns, internet usage, online classes, and behavior of the child. Data were analyzed and summarized via appropriate statistical tests using Microsoft Excel 2019. The Chi-square test was applied and a p-value of <0.05 was considered significant.

Table 1: Effect of lockdown on various psychosocial and behavioral aspects of the children:

	Before lockdown (n=100)	During lockdown (n=100)	Chi-square p value
Effect of lockdown on sleep: Day time sleep Night time sleep	 4.74±0.14 hours 9.30±1.84 hours	 5.64±0.18 hours 10.2±1.94 hours	 0.0010 0.00001
Electronic gadgets and internet usage (including online classes)	2.15±0.99 hours	3.10±1.38 hours	0.00001
Mean hours of online classes attended	1.03 ± 0.67 hours	3.09±0.73 hours	0.046
Effect on playing games: (n=100) Number of children playing outdoor games Number of children playing indoor games	 86 22	 14 78	0.00001
Percentage of the children engaged in extracurricular activities (like sports, cultural, arts, crafts, etc.) (n=100)	73%	58%	0.025.
Effect on eating habits: Regular pattern More frequent meals (>4 meals/day)	 65 35	 38 62	0.0013
Behavioral problems:(n=100) Night mares Nocturnal enuresis	63 25 38	79 33 46	
Accessibility to health care during lockdown(n=100) Number of children taken hospital-based treatment Number of children taken home-based treatment	 63 37	 41 59	 0.0018

Table 2: Reasons for not attending online classes during lockdown:

Out of 100 children, around 38 children were not able to attend the online classes during lockdown:

Reason	Number of children(n=38)
No signal or poor signal where the child live	9
Poor socio-economic class	8
Access to internet, mobile, laptop etc. not possible	6
Paying for internet data is too expensive	6
Device is too expensive	5
It is too difficult to use the device	4

Table 3: Effect of lockdown on child's behavior at home:

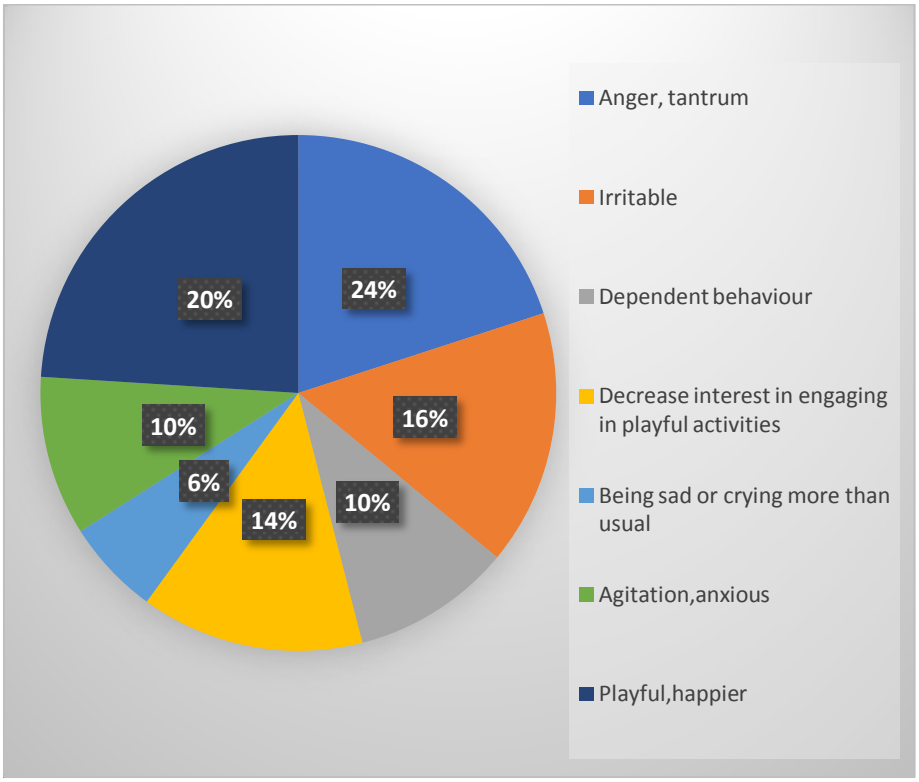
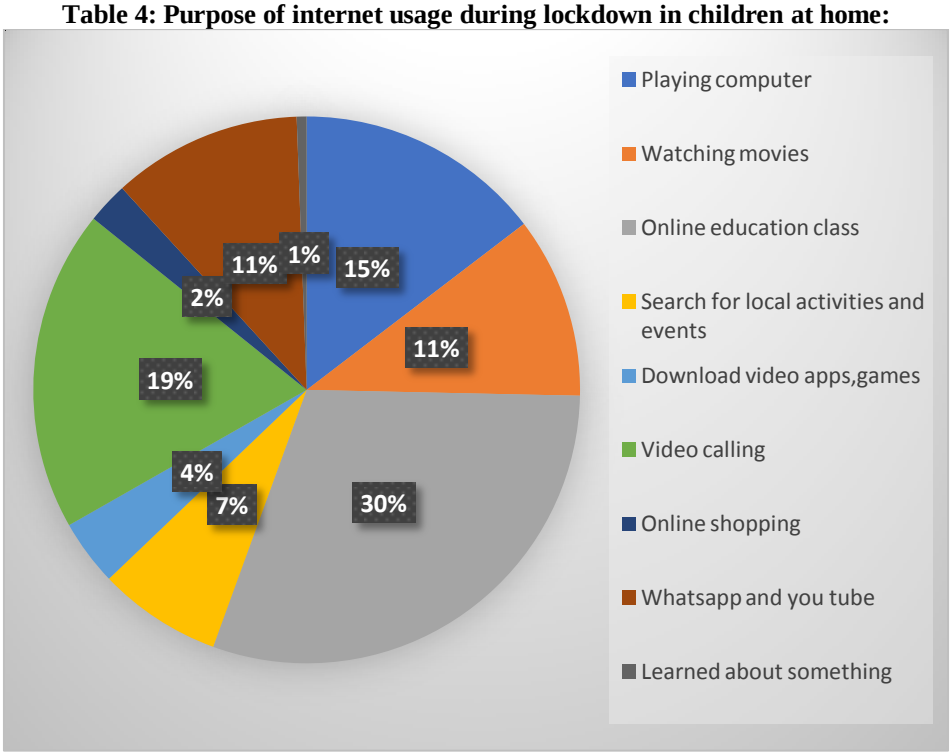


Table 4: Purpose of internet usage during lockdown in children at home:



III. Results:

A total of 100 children were analyzed for the effect of lockdown during COVID 19 pandemic. The mean age of the children in the study was 7.28 ± 1.64 years with a Male: Female ratio of 1.5:1. Mean hours of daytime sleep was significantly increased during the period of Lockdown (5.64 ± 0.18 hours) as compared to before lockdown (4.74 ± 0.14 hours) with a p-value of 0.0010. Mean hours of nighttime sleep was significantly increased (10.2 ± 1.94 hours) during lockdown as compared to before lockdown (9.30 ± 1.84 hours) with a p-value of 0.000010. There was a significant increase (p-value-0.000010) in screen time or gadget use in children

during the lockdown (3.10±1.38 hours) as compared to pre lockdown (2.15±0.99 hours). During the period of lockdown, children have used the internet for various purposes like for online classes (30%), video calling to friends and other family members (19%), playing computer (15%), watching movies (11%), using whats app and youtube (11%), search for local activities and events (7%), download video, apps and games (4%), online shopping (2%), learn about something (1%).

Due to school closure, mean hours of the online classes attended were significantly increased during lockdown (3.10±0.73 hours) as compared to before lockdown (1.03±0.67 hours) with a p-value of 0.0046. Out of 100 children, 62% of the children were attending online classes regularly. 34% child had complained about headaches, 25 % had photophobia, 8% had watering from the eyes, 12.77% had refractory errors, 11% had redness and itching, 10% had neck pain, 2% had back pain while attending online classes on mobile or laptop. 38% of children were not able to attend the online classes due to various reasons. The most common reasons for that were poor signal at the residential area of the child (23.68%) and poor socio-economic class (21.05%).

Due to the risk of getting infected, children were forced to play indoor games instead of outdoor games (p-0.00001). 21% of children were not able to continue their extracurricular activities during lockdown (p-0.025). The eating pattern of the child changed from a regular pattern to more frequent feeds (>4 meals/day) during lockdown (p-0.0013). During the period of lockdown parents of 62 children had reported that their children were eating more food than a requirement, while 38 had reported that their child's food intake had not changed. Parents of 52 children had reported that their children had gained the weight, 20 had reported that the child had lost the weight and 28 had reported that they had not observed any change of weight in the children during the lockdown.

There was a significant increase in various behavioral problems in children during the period of lockdown (79 children) as compared to before lockdown (63 children). Common behavioral problems observed were nocturnal enuresis (46%), nightmares (33%), anger and tantrum (20%), irritable (16%), decreased interest in engaging in playful activities (14%), dependent behavior (10%), agitation and anxiety (10%), being sad or crying more than usual (6%), while 23% children remain playful and happier during the period of lockdown.

Parents were preferred to give home-based treatment over hospital-based treatment to their children for health issues during lockdown (p-0.0018). During the period of lockdown, there was a change in parents' attitudes towards their children. Parents of 38 children had become more anxious towards their children, 24 had become more loving and caring, 6 had become more aggressive, and there was no change in the attitude of parents of 32 children during the lockdown.

IV. Discussion:

The year 2020 started with a pandemic of COVID19 disease which has caused its effects on human life, health care system, country economy, and many more. To combat this pandemic various nations and states have implemented a complete lockdown as a measure to reduce the spread of coronavirus (SARS COV-2 virus). The country and nation wise lockdown have its direct impact on breaking the chain of transmission but at the same time it has many negative effects like confined family to a close place, closure of the schools and it has led to many psychological problems not only the adults but also on a growing brain of children.

As the children were confined at home and there was a vacation time due to school closure the children were spending more time for sleep than usual[3,4]. Even their sleep pattern has also changed in a form of late-night awakenings and spending more time in daytime sleep. There was also an impact on the quality of sleep of many children and in our study, 46% of children have observed nocturnal enuresis and 33% have nightmares. The children were also using an electronic gadget during the night time before going to sleep which has caused a significant delay in the initiation of sleep. Kaditis AG et al had also noticed a shift of bedtime and wake times to later hours and a two-fold increase in sleep duration in his study (p-value 0.0010)[5].

As the children were confined at home and due to the online teaching schedule, the child has easy accessibility to various electronic gadgets like smart phones, laptops, etc. which has led to a significant increase in the mean hours of screen time.[6,7] The mean hours of electronic gadgets use were 3.10±1.38 hours during lockdown which was significantly increased from pre lockdown 2.15±0.99 hours with a p-value of 0.00001. Out of this 2.31±0.96 hours have been spent for the online classes and educational purposes and the remaining has been used for leisure time like video calling to friends and other family members, playing computer, watching movies, using whats app and youtube, searching for local activities and events, download video, apps and games, online shopping, learn about something[8]. Even there was liberty for the usage of these devices as parents had thought that usage of these devices will keep their children confined to home only. Cohort study Pietrobelli A et al have also noticed a significant increase in screen time in children during lockdown (p-<0.0010)[9].

Due to lockdown and fear of getting an infection, children were used to playing indoor games instead of outdoor games. As there was a reduction in outdoor play, an increase in the frequency of meal consumption and a decrease in physical activity have put many children at risk of obesity. During the period of lockdown, children were confined to the home and not able to meet their friends and other family members, they were not

able to continue their extra-curricular activities and it has led to an impact on their behavior and many children have reported behavioral problems like nocturnal enuresis, nightmares, anger, and tantrum, irritable, decrease interest in engaging in playful activities, dependent behavior, agitation and anxiety, being sad or crying more than usual[10,11,12,13,14].

As there was a significant increase in mean hours of gadgets use, it has led to a significant impact on a child's health and nutritional status. In our study, we have observed that many parents have complained about an increase in the amount as well as the frequency of meals consumed during the lockdown. Children were also demanding new dishes and junk food and a variety of food which has caused a significant increase in their calorie consumption. Pietrobelli A et al. also noticed a significant increase in the number of meals eaten per day (p-<0.0010) during the lockdown.

During the COVID 19 pandemic, many of the private hospitals were closed in an initial phase of lockdown. Moreover, the Government hospital changed to COVID 19 designated hospital. This was caused a significant impact on the delivery of health services. Because of poor access to a health care system due to lockdown and a decrease in the number of hospitals providing non-COVID care, many children were not able to access the health care system for their health issues like fever, running nose, diarrhea, cough, and cold, vomiting, headache, ear pain [15]. This has led to a panic situation in parents and many of them were started using home remedies for their children's health-related issues.

V. Conclusion:

The lockdown has made a significant impact on the psychological, social, and behavioral domains of children. The child has made a significant change in alterations in sleeping habits and eating patterns, electronic gadgets, and internet usage, and behavioral problems like nocturnal enuresis, nightmares, and anger and tantrums.

Conflict of interest: There is no conflict of interest involved while doing this study.

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