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Original Research Article

Impact of COVID-19 pandemic on educational, psychosocial and behavioral aspects of children: a cross sectional survey

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ABSTRACT

Background: The outbreak of COVID-19 appeared first in China and then, rapidly, spread to the rest of the world, and WHO declared it as a pandemic. A nation-wide closure of educational institutions was implemented as an emergency measure in India in March 2020. Meanwhile the traditional classroom instructions were replaced by online classes and home-based learning. Pandemic stressors such as boredom, being in isolation, one of the family members hospitalized/ succumbed to covid, etc, may have even more negative impact on children's behaviour and emotions. Objectives were to study the impact of covid 19 pandemic on psychosocial, educational and behavioral aspects of children.
Methods: The current study was a questionnaire based cross-sectional survey conducted among the parents attending paediatric OPD in NRI general and superspeciality hospital, Mangalagiri, between September 2021 to December 2021 over a period of 70 day along with their children of age group between 3 years to 18 years with an aim to explore various psychosocial, educational and behavioral aspects of children and their correlation.
Results: The results showed that, during the COVID-19 outbreak, the children tended to increase their use of screens, and were less active physically. Majority of children who had physical activity <2 hours and increase in sleeping hours during the pandemic, reported weight gain. In the present study screen time usage is more in adolescents (55%). Behavioural problems associated with screen time is 61% in the present study. The results suggest that children are vulnerable to the COVID-19 outbreak psychological effects and highlight the need to reduce the psychological burden of this pandemic and the necessity of immediate intervention.
Conclusions: Children are vulnerable to psychological stressors like social isolation, home confinement, closure of schools and activity centers for longer periods, which has debilitating effects on educational, psychological and developmental attainment.

Keywords: COVID-19, Educational, Psychosocial, Behavioural, Physical activity

INTRODUCTION

In the past year, the world saw the coronavirus disease (COVID-19) outbreak affect countries in waves more widespread on a global scale than SARS and other epidemics. Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of the COVID-19 pandemic, thereby impacting over 60% of the world's student population.[1] In order to mitigate the negative

consequences on students during home confinement, the government, national health commission, medical health specialists, schools and parents worked together to provide activities to maintain routines and distract children from the harsh reality of the epidemic.[2]

Measures undertaken to further minimize adverse social-emotional effects of school closures included increased offerings for parent-offspring activities, a reduction in academic load, and a shift in the routine communication of daily life from the schools to the online class clusters in home schooling programs. Many studies have shown the adverse aspects of school closure and assumed that resumption of in-person schooling would end these negative impacts on the psychosocial well-being of children and adolescents.[3] Most children and youth are no longer attending school, with classroom lessons replaced by home-schooling and online learning activities. Despite attention to the mental health impact of school closures and stay at home orders, no research has emphasised psychosocial and behavioral effects of prolonged home confinement and online schooling in various age groups of children (pre-school, school, adolescents) during COVID-19.[4]

METHODS

Study design

Questionnaire based cross-sectional study conducted among the parents attending paediatric OPD along with their children.

Study place

Study conducted at paediatric OPD in NRI general and Superspeciality hospital, Mangalagiri.

Study period

Study carried out from September 2021 to December 2021 over a period of 70 days.

Selection criteria

Children of the age groups between 3 years and 18 years, i.e., preschool (3-5 years), school (6-10 years), adolescents (11-18 years) were included in the study.

Sample size

790 children were selected in the study.

Procedure

A pre-constructed questionnaire is utilized in our survey by means of Google forms (https://docs.google.com/forms/d/1Ck8PERBrdVHp6RNybUts1OZCKZ0ilW74mPCE46mNRe0/viewform?edit_requested=true). The data regarding the impact of COVID-19 on educational, psychosocial and behavioral aspects of children was entered in the questionnaire. The data was entered in the excel sheet and was analysed.

Statistical analysis

Categorical variables were expressed in percentages. The association between socio- demographic factors and behaviour of children was studied with Chi square test of association.

RESULTS

Gender and age

A total of 790 participants were enrolled in the survey in which 51% of children were females and 49% of children were males. The 21% of the children belong to preschool age, 34% belong to school age and 45% adolescents.

Age vs recreational screen time

Majority of children (244 out of 438) with screen time >2 hours belonged to adolescent age group which was statistically significant (p<0.001).

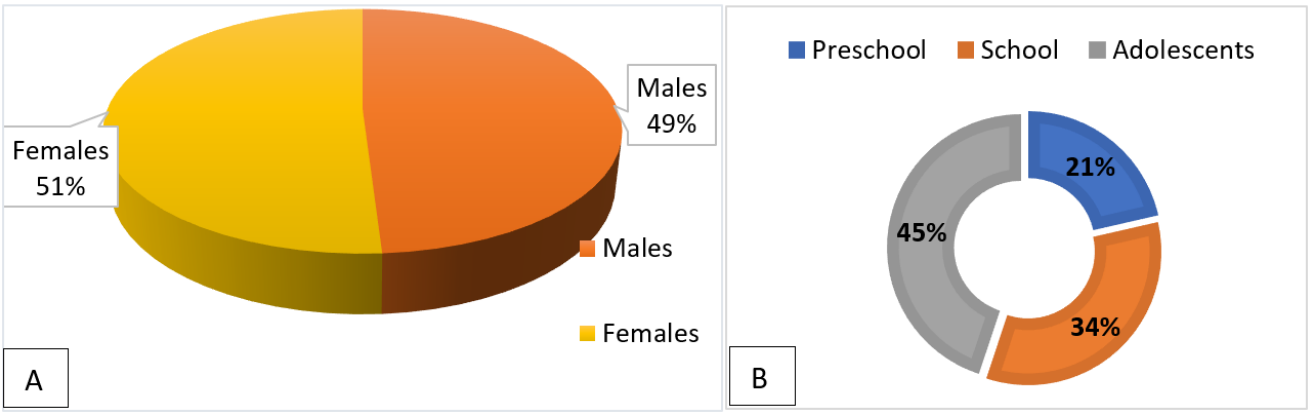


Figure 1 (A and B): Gender and age distribution.

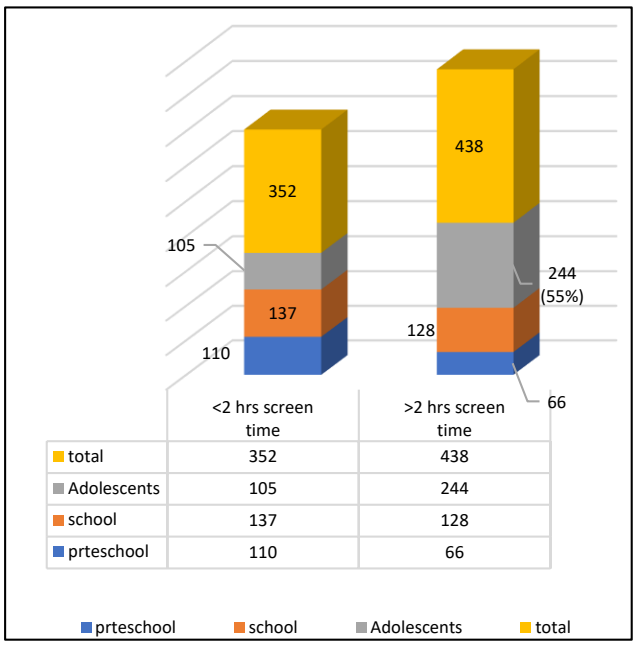


Figure 2: Age versus recreational screen time.

Correlation between physical activity and sleeping hours

In children who had increased sleeping hours (170 out of 270) physical activity was reported to be <2 hours which was statistically significant (p=0.01).

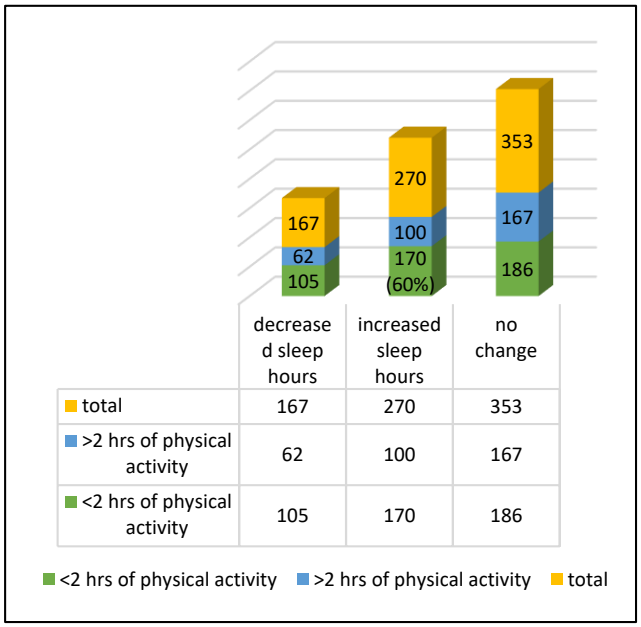
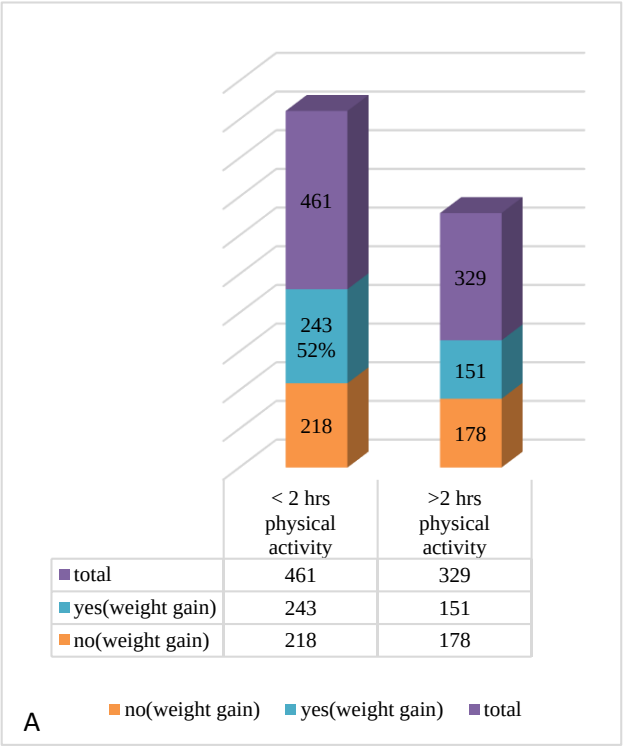


Figure 3: Correlation between physical activity and sleeping hours.

Correlation between physical activity and sleeping hours versus weight gain

The 243 parents whose children spent <2 hours in physical activity reported significant increase in weight of their children which was statistically significant (p=0.03). Majority (180 out of 270) of children who reported an increase in the sleeping hours during the pandemic had significant increase in weight which was statistically significant (p<0.0001).



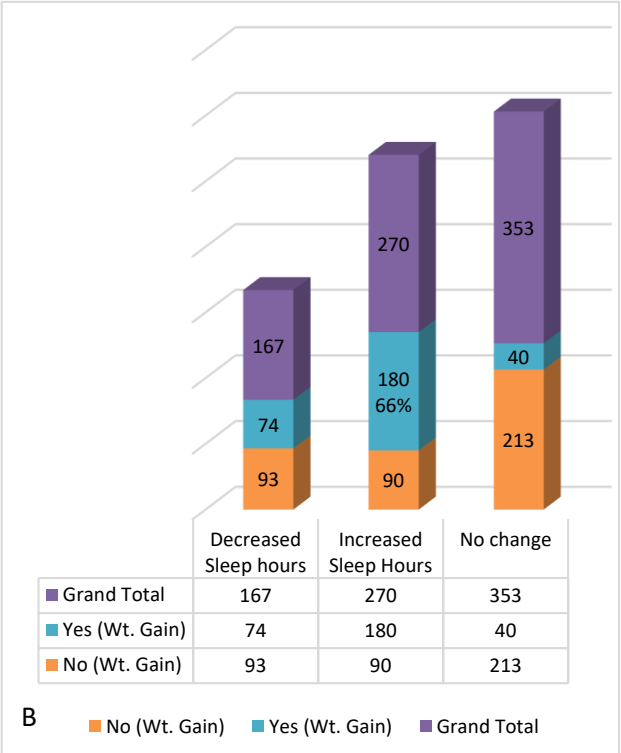


Figure 4 (A and B): Correlation between physical activity versus weight gain and correlation between sleeping hours versus weight gain.

Correlation between recreational screen time versus behavioral problems

Majority of children (250 out of 354) who had behavioural problems spent >2 hours on screen time which was statistically significant (p=0.001).

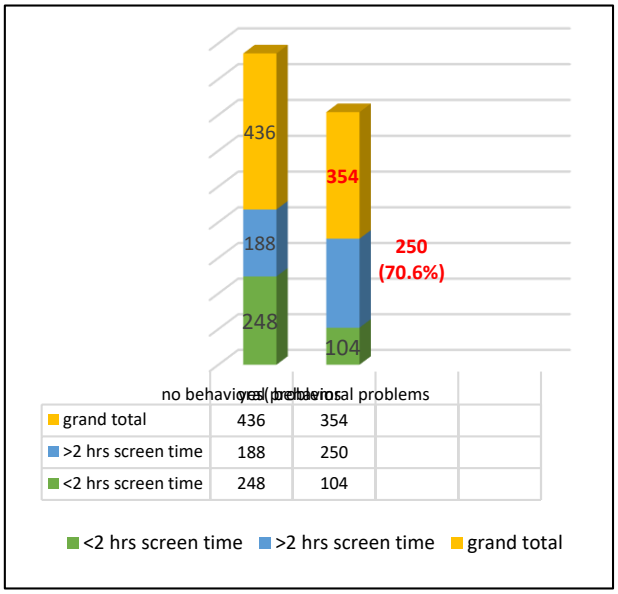


Figure 5: Correlation between recreational screen time versus behavioral problems.

Family member hospitalized or lost in covid versus behavioural problems

Majority of the children (190 out of 354) who had behavioural problems belonged to the family in which one of the family member hospitalized/ lost in covid which was statistically significant (p=0.001).

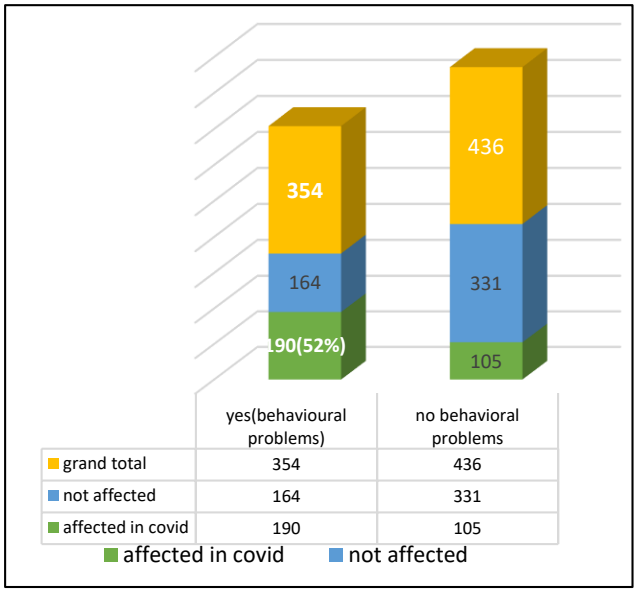
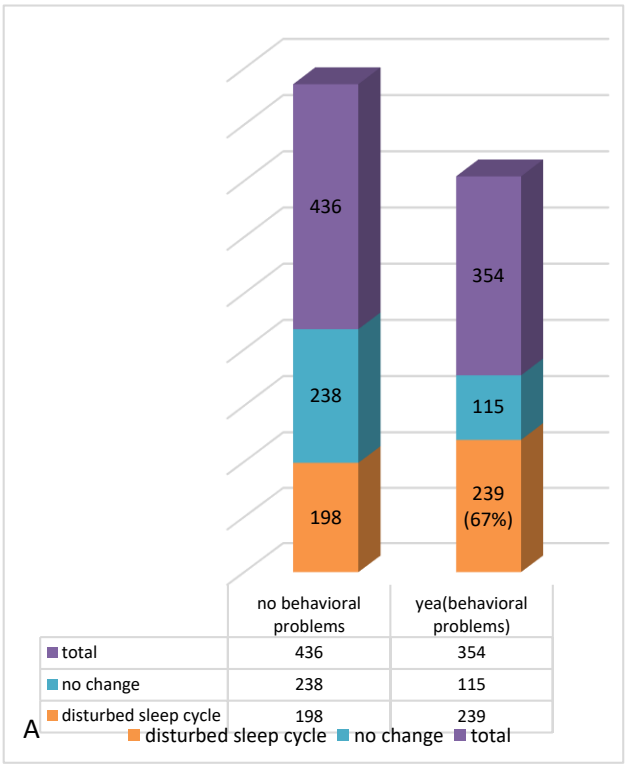


Figure 6: Family member hospitalized or lost in COVID versus behavioural problems.

Correlation between sleep cycle with behavioral problems and parent offspring conflict

Majority (239 out of 354) children who had behavioural problems are found to have increased sleeping hours which was statistically significant (p=0.0001).



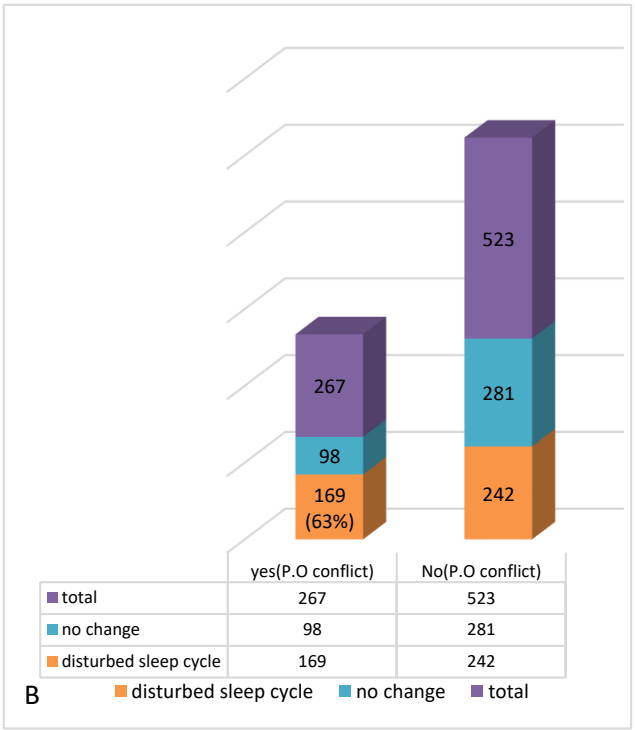


Figure 7 (A and B): Correlation between sleep cycle and parent offspring conflict and correlation between behavioral problems and parent offspring conflict.

Majority of children (169 out of 267) with parent offspring conflict reported to have disturbed sleep cycle was statistically significant (p<0.0001).

DISCUSSION

This study reports overall psychosocial, behavioural and educational impact on children and adolescents due to covid 19 pandemic. In our study, an increase in weight was observed in 48% of children whereas the study done by Pujia reported that 59.7% of the participants had gain in body weight. According to Pujia et al weight gain among adolescents (67%) was more than in children (55%).[5] Whereas there was no such difference noted in the present study. In the present study, majority of children who had physical activity <2 hours and increase in sleeping hours during the pandemic, reported weight gain. In the present study screen time usage is more in adolescents (55%) compared to others (45%). In the present study 54% of children spent >2 hours of recreational screen time, it was 69% in Zhao study.[6] While in Ling wang et al it was 42%.[7] In the present study, 72% children who spent >2 hours of recreational screen time belonged to well-educated parents, in contrast to 55% of children with <2 hours of screen time belonged to families with decreased income during the pandemic. Ghanamah et al reported behavioral problems in 45% of children associated with increase use of screen time.[8] Whereas, in the present study, it was 61%.

Ghanamah et al observed an association between behavioural problems in children who belonged to family in which one of the family member was diagnosed (31%) or quarantined (75%) or lost with covid.[8] While, in the current study, it was 58% in total. Almugti et al reported that children had more screen time, less physical activity and reduced sleep time, compared with pre-pandemic period, which was similar to the present study.[9]

Wang et al adds that, parent offspring conflict and increase in sedentary time were the most common risk factors for behavioral problems, while our study states that increase in screen time, decreased family income, disturbed sleep cycle and a family member hospitalized or lost in covid were the main risk factors for behavioural problems.[7] As per UNICEF guidelines teachers/ school councellors should watch out for any warning signs of child behaviour that interfere with their ability to explore, play and learn.[10]

Limitations

The current study is a cross-sectional study. Longitudinal studies are better to follow the long term effects of the pandemic, on the psychosocial and behavioural aspects of children.

Though sample size in the current study is not small, studies with a higher sample size may be needed to co-relate the outcomes in a better way.

CONCLUSION

Children are vulnerable to psychological stressors and obesity due to social isolation, home confinement and increased screentime during the COVID-19 pandemic. We suggest that children should preserve a healthy routine with acceptable sleep cycle and physical activity, and media can be used to encourage them to exercise. Parents should talk to their children about the present situation to minimize the negative feelings and to help the children better understand the pandemic. In addition, the government institutions should plan developing interventions and therapeutic programs aiming to contribute to the mental health of children. The results highlight the urgency for policy makers including school authorities and parents to develop effective and innovative strategies to bring the childrens' lives to normalcy as the pandemic is coming to an end. Community paediatrician should identify vulnerable group of children and if needed should refer to mental health care professionals. 'Tele-mental health services' should be accessible to the public at large. This would be crucial to prevent the mental challenges of the pandemic in children.

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Conflict of interest: None declared
Ethical approval: The study was approved by the Institutional Ethics Committee

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