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MENTAL HEALTH AND ACADEMIC PERFORMANCE OF CHILDREN AND ADOLESCENTS DURING COVID-19

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Abstract

Background: Closure of school had an impact on over 94% of the world's student population. COVID-19 pandemic has affected almost 268 million children in India. At least 463 million children worldwide were unable to access remote learning during COVID-19 school closures in 2020.

Aim: The outbreak of COVID-19 pandemic and lockdown has affected students worldwide. Closure of schools and distance from peers has brought many mental health concerns among them. Online education has seen a drop in academic performance due to many reasons like lack of internet access, no face to face contact etc. This study highlights issues concerning such matters with the help of literature review.

Method: The studies were selected based on several inclusion and exclusion criterion like age range of sample i.e. 3-19 years, academic performance and mental health status.

Result: Studies showed that during COVID-19 schools and colleges have seen a drop in academic performances of adolescent also there has been a lot of mental health concerns like anxiety issues, symptoms of depression, child abuse etc. COVID-19 has affected and will continue to affect the mental health and academic performance of children and adolescents.

Conclusion: These studies reached the conclusion that COVID-19 has brought many adverse effects on both academic performance & mental health of adolescents. It also talks about some of the preventive measures that can be taken into consideration in order to protect adolescents so that early signs and symptoms of poor mental health can be managed and also it talks about measures that can help in improving academic performance.

Keywords: Covid-19, Mental Health Academic Performance, Children, Adolescents

Introduction

According to WHO, a new coronavirus namely SARS-COU-2 is spreading a disease called COVID-19. First ever case to be reported of COVID-19 was in Wuhan, China on Dec 31, 2019 (WHO, 2020). The outbreak of COVID-19 caused very serious health hazards all across the world. The outbreak resulted in pandemic and eventually global lockdown. As a part of lockdown, educational institutes, schools and colleges had also been shut, this has become a challenge for both teachers and Students (Clark, Nong, Zhu and Zhu, 2021). COVID-19 pandemic has affected almost 268 million children in India. At least 463 million children worldwide were unable to access remote learning during COVID-19 school closures in 2020 (UNICEF). Due to the closure of schools and colleges, online education has begun in order for courses to be completed.

Lockdown and online classes have restricted movement, and it can have many psychological impacts (Tang, Xiang, Cheung and Xiang, 2020). Adolescents with a history of mental health find it easier to cope with their issues by following a fixed school routine. Due to school closure their schedule has been disturbed and learning methods have changed. Now it is getting difficult for them, especially children who are in need of special education like one with autism and ADHD to adjust to a new normal. It can affect their mental health severely as it is difficult to adjust back to normal life (Lee, 2020; Imran et al.2020; He et al. 2021; Singh et al. 2020). Due to COVID-19, parents had to re-organize their life at home and now they have to work and take care of children at the same time. This sudden increase in pressure is causing stress in parents which is eventually increasing the risk of emotional and behavioral problems in adolescents. (de Figueiredo et al. 2021; Imran et al. 2020).

Management of stress and regulation of emotions by parents can act as a source of resilience for children and adolescents (Imran et al. 2020; Yeasmin et al. 2020). Resilience and positive emotion management help children and adolescent to cope with negative emotions resulting from exposure to COVID-19 (Yang et al. 2020). During lockdown, screen time of adolescence had increased more than ever before and it might lead to problems like PTSD and other mental health disorders (Imran, Zeshan and Pervaiz, 2020; Patra and Patro, 2020). Academic performances also had a major impact of lockdown. Earlier in Schools, holistic development of children had been taken care of but due to lockdown children are not able to access libraries, laboratories etc. to gain practical knowledge. The closure of schools is leading towards many unforeseen events like poor social, physical and psychological health. It also has the gender gap in education (Kumar, Karpaga, Panigrahi, Raj, Pathak, 2020). Loss of Contact hours with teachers also had adverse effect on education (Sintema, 2020).

Method

2.1. Search Strategy

Working with a research librarian from the Banaras Hindu University, we searched Shodhgana, Web of Science Index, Research Gate, and the WHO COVID-19 databases. Non Indexed databases, including Google Scholar was also searched. To identify missing papers, bibliographies of all included studies and all relevant systematic reviews were hand-searched. Restrictions on language and date were not utilized.

2.2. Types of Participants

Studies on school-aged children and adolescents (3 to 19 years) in low-middle and high-income countries were considered. Studies with a broader age range were included if they had subgroup data for children aged 3 to 19. Children and adolescents with mental health disorders, those who are homeless, and those who have substance misuse problems were excluded from studies.

2.3. Type of Exposure and Interventions

Studies on recent COVID-19 and academic performances were included. Additionally, studies were included focusing on interventions delivered to school-age children, adolescents, and their families to improve their mental health.

2.4. Types of Outcomes

Anxiety and sadness are the principal consequences, with fear of infection, frustration, boredom, fear of pandemic-related uncertainty. Impact on school performance was another key outcome. There were knowledge gaps identified, as well as the application of the current pandemic's findings to improving the mental health of school-aged children and adolescents.

2.5. Study Selection

Articles were included if the study exclusively examined the impact of COVID-19 on children's and adolescents' mental health and academic performance. Studies examining impact of any other epidemic or natural disaster were excluded. Detailed inclusion and exclusion criteria are shown in table below.

Table 1

Review	Study design/Methodology	Type of issue	N	Country	Age range	Finding
Sintema (2020)	Case study	Academic Performance	3	Zambia	15-17	Finding showed drop in performance in yearly performance. Covid-19 will have adverse effect on education system.
Sullivan et.al (2021)	Online interview	Mental Health	94	Ireland	N.A	Key findings of this study show s that due to limited access to public health services, children and adolescents had its impact on mental health
Imran et. al(2020)	Article	Mental Health	N.A	Pakistan	6-18	Interventions need to focus on nurturing resilience in children and adolescent by better communication on to address their fears and concerns.
Tang et. al(2020)	Cross-sectional survey	Mental Health	4242	China	4-16	24.9% has anxiety, 19.7% has depression, and 15.2% has stress

						due to prevalence of Covid-19.
Duan et. Al (2020)	Cross-sectional survey	Mental Health	3613	China	7-18	Finding suggested that, symptoms of Anxiety were most common among children and adolescent. Signs of depression, recurrent diseases associated with memory impairment were also found.
Yeasmin et. al (2020)	Cross-section study	Mental Health	384	Bangladesh	5-15	Study suggested that children in Bangladesh are having mental health Issues. Improvement in household financial conditions may help in improving the mental status of children.
de Figueiredo et. al (2021)	Literature Review	Mental Health	N.A	Brazil	N.A	Covid-19 brought disturbance in the daily routine which could become a critical health problem in future. Withdrawal from social life and other activities can increase the risk of developing psychiatric disorders.
Yang et. al (2020)	Survey Method	Mental Health	286	China	N.A	Study showed that resilience and positive emotion regulation help them cope with negative emotions resulting from exposure to Covid-19.
Agnafors et. al (2020)	Longitudinal Birth Cohort Study	Mental Health and Academic Performance	1700	Sweden	3-19	Mental Health problem that occur in early childhood and adolescent group increases the risk of poor academic performance.
Frojd et. al (20080)	Epidemiological Study	Depression and Academic Performance	2516	finland	13-17	Participants with depression had weakened abilities to cope with academic responsibilities
Singh et. al (2020)	Narrative Review	Mental Health	N.A	India	10-19	Finding suggested that even with lower infection rate, children and adolescent suffer various issues like stress, anxiety and loneliness.

Clark et. al (2020)	Experimental Study	Academic Performance	1835	China	7-16	Finding suggested that online learning in comparison to no learning did benefit students.
Bhargava et. al (2021)	Online Survey	Mental Health	110	India	N.A	Finding suggested that students have symptoms of anxiety out of which "Panic Attack" is the most common form.
Meherali et. al (2021)	Rapid Systematic Review/PRISMA	Mental Health	N.A	India	5-19	Study says that children and adolescent are more likely to experience anxiety
Kwakye et. al (2021)	Diagnostic testing	Academic Performance	N.A	USA	3-18	School closure and ongoing pandemic has significant impact on students. Students belonging to low income family experience much greater learning disruption in comparison to their peers.

Result

3.1 Study characteristic:

A total of 15 Studies (given in Table 1) has been included in this (Clark et al. 2020; Sintema 2020; Tang et al. 2020; Imran et al. 2020; Sullivan et al. 2020; Duan et al. 2020; Yeasmin et al. 2020; de Figueiredo et al. 2021; Yang et al. 2020; Agnafors et al. 2020; Frojd et al. 2008; Singh et al. 2020; Bhargava et al. 2021; Meherali et al. 2021; Kwakye et al. 2021), out of which ten studies talks about effects of COVID-19 on mental health (Tang et al. 2020; Imran et al. 2020; Sullivan et al. 2020; Duan et al. 2020; Yeasmin et al. 2020; de Figueiredo et al. 2021; Yang et al. 2020; Singh et al. 2020; Bhargava et al. 2021; Meherali et al. 2021), three studies talks about effect of COVID-19 on academic performance (Clark et al. 2020; Sintema 2020; Kwakye et al. 2021) and two studies talk about the association between mental health and academic performance (Frojd et al. 2008; Agnafors et al. 2020) Out of the fifteen Studies that were included, one was case study (Sintema 2020), two were online interview(Sullivan et al. 2020; Bhargava et al. 2020) , one was the review article (Imran et al. 2020), three were cross-sectional studies (Tang et al. 2020; Duan et al. 2020; Yeasmin et al. 2020), one study was done using survey method (Yang et al. 2020), one study followed longitudinal birth cohort method (Agnafors et al. 2020), one was epidemiological study (Frojd et al. 2008), three were review studies (Singh et al. 2020; de Figueiredo et al. 2021; Meherali et al. 2021), one study followed diagnostic testing method (Kwakye et al. 2021) while one of them was experimental study (Clark et al. 2020). The population age range in these studies varied between 3-19 years. Most of the studies in this review (n=4) come from China (Clark et al. 2020; Duan et al. 2020; Tang et al. 2020; Yang et al. 2020), three studies are from India (Bhargava et al 2021; Meherali et al. 2021; Singh et al. 2020), and there's one each from Zambia, Ireland, Pakistan, Bangladesh, Sweden, Finland, Brazil and USA (Sintema 2020; Sullivan et al. 2020; Imran et al. 2020; Yeasmin et al. 2020; Agnafors et al. 2020; Frojd et al. 2008; de Figueiredo 2021; Kwakye et al. 2021). The total sample of all the studies included in this is 14883 among which 3 (Sintema 2020) being the lowest sample size and 4342 (Tang et al. 2020) being the highest sample size.

3.2 Effect of COVID-19 pandemic on mental health:

COVID-19 has affected everyone around the globe not only physically but also it has several mild to severe impacts on mental health. Children and adolescents have lower COVID-19 cases (Ministry of health, India) but they have greater mental health risk. There is an increased risk of anxiety and depression among children and adolescent out of 15 reviews in this a total of 5 studies reached to the same conclusion (Tang et al. 2020; Duan et al. 2020; Singh et al. 2020; Bhargava et al. 2021; Meherali et al. 2020). Two studies conducted in China involving 4342 and 3613 participants respectively suggested the prevalence of anxiety, depression and Stress (Tang et al. 2020 and Duan et al. 2020). Study by Tang et al. (2020) says that out of 4342 participants 24.9% have anxiety, 19.1% have depression and 15.2% have Stress. Anxiety symptoms are most common and about 22.28% respondents out of 3613 were suffering from depression in China (Duan et al. 2020) 3 Studies in India observed the similar results Singh et al. (2020) in their study mentioned confinement at home, school closure and other restricted activity had them develop the symptoms of anxiety and loneliness. "Panic attack" which is an excessive form of anxiety is the most common mental health problem among students. There are high chances of students developing anxiety and depression once the pandemic gets over (Bhargava et al. 2021). Anxiety among adolescents is higher than that of children. Adolescents who were enrolled in senior high school had high symptoms of depression and anxiety (Meherali et al. 2021). Studies done in China and Bangladesh talk about the techniques and situations that can help children and adolescents to overcome psychological trauma. Yang et.al (2020) stated that the negative impact of COVID-19 that leads to psychological trauma can be managed through resilience and positive emotion regulation. Study done in Bangladesh showed that the participants had depression ranging from 2.8% to 25.2% (based on severity), Anxiety ranging from 2% to 13.4% and sleeping disorder ranging from 1% to 8%. These symptoms can be managed if proper psychological interventions are implemented and house-hold conditions along with parents' literacy can be improved. Ability of parents to avert their emotional pain might act as a source of resilience for children (Yeasmin et al. 2020). A qualitative study done in Ireland on 94 participants reported that as lockdown resulted in no access to public health services, this has brought some adverse effects on children and adolescent's mental health. Social isolation has also been a reason for symptoms of stress, depression and anxiety (Sullivan et al. 2020). de figueiredo et al. (2021) revealed that withdrawal from social life and other day to day activities like going to school got mixed with fear, anxiety and feeling of unpredictability has increased the risk of developing psychiatric disorder in future. Those children whose parents are living highly stressful life have higher chances of getting mental health disorder. Research done in Pakistan by Imran et al. (2020) says that increased screen time due to house arrest can lead to various psychological disorders. This study also revealed that the emotional state of their dependents can be contagious and may expose children and adolescent's hidden fear.

3.3 Effects of COVID-19 Pandemic on Academic Performance:

A total of three studies have been added that talk about the effect of COVID-19 on academic performance of children and adolescents. These studies come from China, Zambia and USA (Clark et al. 2020; Sintema 2020; Kwakye et al. 2021) respectively. These studies talk about the effect of COVID-19 on academic performances. Sintema (2020) in the case study done in Zambia showed that there's likely to be a drop in performances in this year's examination. The main reason for the drop is reduced contact hour with teachers as students are not able to contact teachers during the difficulties that arise at the time of preparation. Science teacher mentioned that COVID -19 will downgrade trends in the results. Mathematics teacher mentioned that the high scoring trend in math subjects would suffer a setback and would not be retained quickly. The study suggested that COVID-19 will definitely have an adverse effect on the education system in Zambia. The most likely reasons are, reduced contact hours and lack of e-learning facilities. Teachers are trying to change their pedagogy so that they can help students as much as possible. Another study done in China by Clark, et al. (2020) on 1835 participants showed that receiving online classes as schools are closed due to pandemic has improved academic results by 0.22 of a SD, in relation to students who did not receive any class. It also revealed that low achievers have benefited more from teacher quality than very best students. Study done in the USA based on diagnostic testing by Kwayke et al. (2021) revealed that school closure and ongoing pandemics have significant impact on students. Students that belong to low income families experience much greater learning disruption in comparison to their peers.

3.4 Association between Mental Health & Academics Performance:

Two studies in this review talk about association between mental health & academic performances; one is from Finland and another from Sweden (Frojd et al. 2008; Agnafors et al. 2020). A Longitudinal birth cohort study done in Sweden by Agnators et al. (2020) on 1700 participants revealed that externalizing problems at age 3 predicted academic performance at age 12 after controlling various related factors. Children having conduct problems at the age of 12 has been found to increase the risk for incomplete grades from compulsory school. Mental health at pre-school was related to performance in English & Mathematics at the age of 12. Internalizing problems at age 12 increase incomplete grade risk at age 15. Fröjd et al. (2008) did an epidemiological study to find an association between depression and academic performance in a study done on 2266 participants. Study revealed that young people who had depression had poor abilities to cope with academic responsibilities. Out of all the participants, 18.4% girls while 11.1% boys were depressed. The mean GPA of depressed students is lower than that of non- depressed students.

Conclusion

COVID-19 pandemic has brought several expected and unexpected changes into our lives. It has affected almost every corner of the world and it is evident that its effects are going to stay with us for a long time. It has brought several changes into the world, one of which is closure of schools and colleges due to the lock down that introduced the concept of e-classes or e-learning. Closure of schools and colleges has brought some major changes into the life of adolescents. These changes have affected both their academic performance and mental health. Academic performance has likely seen a drop in almost all the studies that have been conducted in various countries on several targeted populations. Closure of schools and colleges, online education, no face to face contact with teachers, reduced contact hours, not being able to adopt technology trends are the main reasons for drop in academic performance. Lockdown has delayed many examinations and has pushed further many deadlines which are causing a lethargic attitude in adolescents as in India they have been promoted to next classes without examination and without much enhancement in knowledge (Dhanalakshmi et al. 2020). This Shift in attitude is also affecting their mental health negatively. This pandemic has brought many changes into their life and lifestyle in general. Closing of school, distance from peers and friends has aggravated anxiety among adolescents. A study found out that 24.96% out of 4,324 school students experience anxiety while 19.1% and 15.2% have symptoms of depression and stress respectively. These symptoms have been affected by various factors like no discussion about COVID-19 with parents, lack of awareness, negative outlook towards lockdown etc. It was also found that child abuse has also been increased during lockdown. Parents project their anger and frustration onto their children in the form of verbal and physical punishment. This attitude of parents is acting as a source of stress for children and adolescents while it has been found that if parents can manage their negative emotions then it can act as resilience for their kids. It can be summarized that COVID-19 has left some impactful after effects in the life of adolescents and it can also be said that these effects might persist with them in near future. In order to overcome these negative influences parents need to monitor their children's activity and schools need to adjust to a new normal by changing the pedagogy. This study has some limitations as the study has been conducted in a short span and it's based on secondary sources as this is a review paper; the data here is based on the literature review, researcher has tried to conclude all the possible finding but there are many reviews yet to be explored on mental health and academic performance of children and adolescents and the review is only been taken electronically so none of the data that is present offline is being included in this paper. This paper followed a strict age range of 3-19 so researchers did not include any study done on higher education.

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