

## **Effect of COVID-19 Pandemic on Mental and Psychosocial Health of School Going Children and Adolescents: A Systematic Review**

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### **Abstract**

**Background:** The COVID-19 pandemic and the measures governments all over the world have taken for its containment have impacted children of various age groups. Changes in the lives of school going children and adolescents were brought on by the closure of schools and learning spaces, and as a result school going children and adolescents have suffered short and long term implications to their mental and psychosocial health.

**Objective:** To assess the outcome of COVID-19 pandemic and its containment measures on mental and psychosocial health of school going children due to closure of schools and the learning spaces and to provide recommendations to prevent long term implications of this outcome.

**Methods:** The authors conducted a systematic review of articles about the mental and psychosocial health of children and adolescents during the COVID-19 pandemic and analyzed major findings in terms of prevalence of various mental and psychosocial variables. The effect of any activities with positive outcomes on the mental or psychosocial health was also studied. Based on the included articles, the authors developed recommendations to mitigate or reduce the adverse effect of the COVID-19 pandemic.

**Results:** Worldwide, children and adolescents have shown an increase in various mental and psychosocial health challenges, such as depression, anxiety, fear, etc. The closure of schools and lack of physical interaction with peer groups was one major factor for the negative impact to their normal psychological development.

**Conclusion:** There is an imminent need to develop policies and facilities for reducing these changes and make collaborative teams of teachers, parents, psychologists, physicians and community volunteers to support these children.

**Keywords:** COVID-19; Mental Health; Psychosocial Health; School-Going Children; Adolescents

### **Introduction**

COVID-19 was declared as a global pandemic on March 11, 2020, by the World Health Organization. This global emergency situation affected most of the world population. The impact of COVID-19 pandemic could be a result of the infection itself or due to the preventive measures employed to control the virus. School going children and adolescents have also not escaped this impact [1]. There have been prolonged lockdowns, periods of quarantine, and the shutting of schools and activity areas. The COVID-19 pandemic has caused unprecedented changes in education for the children and adolescent due to the closure of schools and other learning spaces, and this has affected almost 94 percent of world's student population [2]. These changes in the social environment have been sudden and drastic for children. The psychological and emotional vulnerability in this age group is known. School closures typically affect children from 5 - 18 years, and as

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a result they may undergo various mental and psychosocial changes [3]. The younger age group, from 3 - 5 years, are affected in a different manner due to the involvement of their families and their distress may present in the form of clinginess, irritability, anxiety, depression, impaired social interaction, etc. Studies have shown that nearly 30% of children who were separated from their parents or caregivers met the clinical criteria of post-traumatic stress disorder [4]. Families and caregivers should be made aware of these manifestations in children. The resultant changes can have long term implications on their future mental and psychosocial development. For this reason, it becomes important to analyze these changes so that measures could be taken to prevent long-term effects.

There are a few previous studies and reviews documenting the COVID-19 related effect on mental and psychosocial health of adults as well as children [5-7], but these reviews analyzed studies involving participants of mixed age groups. These reviews were not targeted on the effect of school closures and the associated changes on mental and psychosocial health of children. Therefore, this systematic review was conducted to study the effect of COVID-19 on the mental health of previously healthy children and adolescents, who have been impacted by the closure of schools and learning areas due to the pandemic and restrictions for its control.

Recognition of these outcomes will help governments design psychological and mental health intervention strategies. With this aim, a systematic review of the studies on mental and psychosocial health of school going children and adolescents during COVID-19 pandemic was conducted.

**Methods**

The present review was conducted according to the guidelines given by Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) [8]. The electronic databases of Pub med, Ovid, Scinapse and Google Scholar were searched using the MeSH terms and Boolean words. For Pub med, we used the terms Covid 19 AND Mental health AND Psychosocial Health AND Children AND Adolescents, and it showed 1039 results. Similar searches were done in the other databases. The search was refined according to the study’s inclusion and exclusion criteria (Table 1). A manual search was also done from the references of searched articles to gather all relevant articles.

Inclusion Criteria	Exclusion Criteria
Peer reviewed studies	Prior history of mental illness
Published between January 2020 - January 2021	Studies including children less than age of 3 years or older than 18 years
Included children of age 3 years or older and adolescents	Age group unspecified
Reported effect of COVID-19 on mental health	Grey literature
Reported effect of containment measures on mental health	Studies in language other than English
English language publications	

**Table 1:** Inclusion and exclusion criteria.

For this review, peer reviewed studies in English published between January 2020 - January 2021 were screened. Studies which reported effects of COVID-19 and/or effects of containment measures on mental health and psychosocial health of children of age three years or older and adolescents were included. Studies on children with prior histories of mental illness, studies including children under the age of three years, or studies with unspecified age groups were excluded. Studies where participants were of mixed age-groups which mentioned both adults and children were excluded. Grey literature, or studies with unspecified methods were also excluded. Table 1 represents the complete list of inclusion and exclusion criteria. Three researchers screened titles and checked for double titles. Abstract screening was performed by all authors and studies which were not in accordance to inclusion criteria were removed from full text screening. The final full text screening was done by two authors independently and any disagreement was resolved through discussion

among all the authors. Figure 1 shows the steps for inclusion of articles. Most of the articles included were the cross-sectional studies, others included letters to the editor, research letters, narrative reviews, reports, etc.

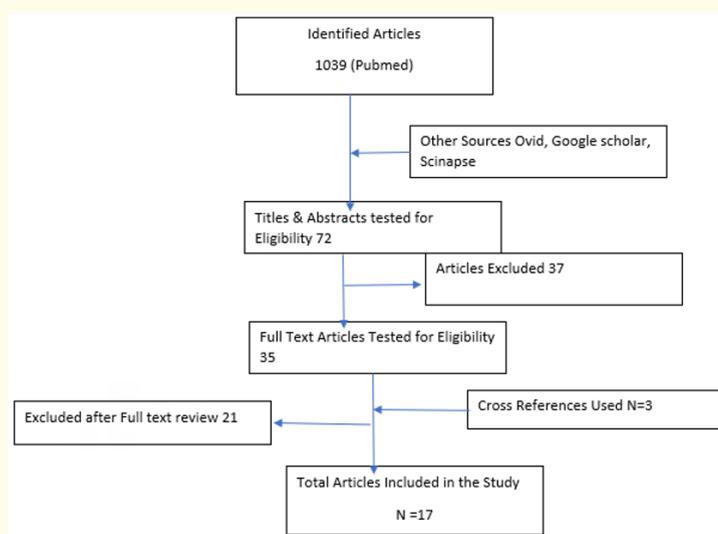


Figure 1: Flow chart of included studies.

Quality assessment of the included studies was done using the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement, which assesses the cross-sectional studies [9]. Studies were divided into low, moderate, and high quality according to the qualitative criteria. A great heterogeneity was noted in the way data was presented and analyzed in various studies. The data of these studies was assessed qualitatively and is presented in this article.

### Results

Out of the included 17 studies, 7 studies were from China, 3 from India, and 1 each from Canada, United States, Ireland, Bangladesh, Spain and Germany. One study included both Italian and Spanish populations. Most of the studies (n = 14) used online questionnaires, surveys, or telephonic interviews for the purpose of data collection. One study used CDC reports to collect data [15]. Participants of the studies ranged from the age of three years to eighteen years. Questionnaires were answered by children or by their parents, for the younger children. Three studies used only parents or caregivers to fill the questionnaires [14,16,25]. The participants of a majority of the studies were school going children. Table 2 shows the detailed characteristics of the studies included in this review in terms of study design, population studied, data collection methods, number of participants, gender distribution, outcome variables, and scales used to measure the outcome variables.

S. no.	Study	Country	Study Design	Data collection method	Study population	Number of Participants Number and Gender Distribution	Outcome Variables Studied	Scales Used	Quality Appraisal
1.	Chen F., et al. 2020 [10]	China	Cross-sectional study	Online questionnaire	School children 6-18 years	n = 1036 Male = 531 Female = 505	Depression Anxiety	Depression Self-Rating Scale for Children (DSRS-C) Screen for Child Anxiety Related Disorders (SCARED)	High
2.	Duan Li., et al. 2020 [11]	China	Cross-sectional study	Online questionnaire	Primary and high school students 7-18 years	n = 3613 Male = 1812 Female = 1801	Depression Anxiety	Child Depression Inventory (CDI) The Chinese Version of Spence Child Anxiety Scale (SCAS)	High

3.	Ezpeleta L., <i>et al.</i> 2020 [12]	Spain	Longitudinal study	Questionnaire based	Children under lockdown Mean age of children = 13.9 years	226 parents of 117 girls and 109 boys	Conduct problems, peer problems, prosocial behaviour	Brief Symptom Inventory (BSI), Strengths and Difficulties Questionnaire (SDQ)	High
4.	Ellis W.E., <i>et al.</i> 2020 [13]	Canada	Cross-sectional study	Survey questionnaire	High school students 14-18 years	n = 1054 Male = 231 Females = 805 Other = 18	Depression	Brief Symptom Inventory (BSI), UCLA Loneliness Scale, Godin Leisure-Time Exercise Questionnaire	High
5.	Jiao W Y., <i>et al.</i> 2020 [14]	China	Cross-sectional study	Questionnaire based	Children during early epidemic 3-18 years	n = 320 Male = 168 Female = 142	Clinginess Worry Sleeping disorders Eating disorders Irritability	DSM V criteria	Moderate
6.	Leeb R T., <i>et al.</i> 2020 [15]	US	Report	Analysed data from CDC's National Syndromic Surveillance Program (NSSP)	Children visiting Emergency Room 5-18 years		Mental Health Related Emergency visits		Low
7.	Oregile's M., <i>et al.</i> 2020 [16]	Spain, Italy	Cross-sectional	Online Survey	Quarantined children 3-18 years	n = 1143 Male = 600 Female = 543	Difficulty concentrating Irritability Other psychosocial factors	Standard scale not used	Moderate
8.	O' Sullivan K., <i>et al.</i> 2021 [17]	Ireland	Cross-sectional study	Online interview	Children under lockdown 49 parents and 45 children	24 Male children of 6 parents, 21 Female Children of = 43 parents,	Mental health	Standard scale not used. Open-ended questions	Low
9.	Ravens-Sieberer U., <i>et al.</i> 2020 [18]	Germany	Original article	Online survey	Parents of children Self reporting by children age 11-17	n = 1586 Male = 791 Female = 793 Other = 2	Mental health problems Anxiety levels	CES-DC SCARED HRQoL (KID-SCREEN-10), mental health problems (SDQ)	High
10.	Saurabh K., <i>et al.</i> 2020 [19]	India	Cohort study	Interview based study	Quarantined school children and their parents 9-18 years	n = 121 Male = 103 Female = 18	Helplessness Worry Fear	Standard scale not used	Moderate
11.	Singh S., <i>et al.</i> 2020 [20]	India	Narrative review	Qualitative analysis	Articles on mental health of children and adolescent		Mental health		NA

12.	Shah S., <i>et al.</i> 2020 [21]	India	Cross-sectional	Telephonic questionnaire	School children 11-15 years	N = 423 Male- 54.40% Female 45.60%	Psychosocial Depression Anxiety	Pediatric symptom checklist (PSC)	High
13.	Tang S., <i>et al.</i> 2021 [22]	China	Cross-sectional	online survey	Primary and secondary school children 6-17 years	n = 4342 Male = 51% Female 49%	Anxiety Depression Stress	Depression, anxiety, and stress scale (DASS-21)	High
14.	Xiang M., <i>et al.</i> 2020 [23]	China	Longitudinal study	Web based survey	School children 6-17 years	n = 2427 Male = 1242 Female = 1185	Depression	Child Depression Inventory (CDI)	Moderate
15.	Xie X., <i>et al.</i> 2020 [24]	China	Research letter	Questionnaire based survey	School students 2 <sup>nd</sup> -6 <sup>th</sup> grade	n = 2330	Depression Anxiety	Child Depression Inventory (CDI) SCARED	High
16.	Yeasmin S., <i>et al.</i> 2020 [25]	Bangladesh	Cross-sectional study	Online questionnaire	Parents with child 5-15 years old	n = 20	Depression Anxiety Sleep disorders	Revised Child Anxiety and Depression Scale (RCADS) Generalized Anxiety Disorder (GAD-7) questionnaire Child behavior Checklist (CBCL)	High
17.	Zhou S-J., <i>et al.</i> 2020 [26]	China	Cross sectional study	Online survey 12-18 years		n = 8079 Male = 3753 Female = 4326	Depression Anxiety	depressive and anxiety symptoms with the Patient Health Questionnaire (PHQ-9) Generalized Anxiety Disorder (GAD-7) questionnaire	High

**Table 2:** Study characteristics of included studies.

To measure the mental and psychosocial health outcomes, different studies employed different variables and methods. Most of the studies used standard depression and anxiety scales. The scales used for depression included DSRs-C [10], the Child Depression Inventory (CDI) [11,23,24], Brief Symptom Inventory (BSI) [12], DSM V criteria [14], CES-DC [18] and Strengths and Difficulties Questionnaire (SDQ) [12]. The scales used for assessing the anxiety levels included Screen for Child Anxiety Related Disorders (SCARED) [10,18,24], the Generalized Anxiety Disorder (GAD-7) questionnaire [25,26] and The Chinese Version of Spence Child Anxiety Scale (SCAS) [11]. The other scales used were UCLA Loneliness Scale [13], Depression, anxiety, and stress scale (DASS-21) [22], depressive and anxiety symptoms with the Patient Health Questionnaire (PHQ-9) [26], Revised Child Anxiety and Depression Scale (RCADS) [25] and Paediatric symptom checklist (PSC) [21].

Two main variables studied by most of the studies to describe the effect of COVID-19 pandemic on mental health were depression (n = 9) and anxiety (n = 8). Various studies also examined mental and psychosocial health variables like worry, psychosocial factors, loneliness, sleep disorders, fear, irritability and eating disorders, etc. (See table 2). One study described the effect of COVID-19 on children's emergency room visits for mental health reasons [15]. Some studies subjectively assessed mental and psychosocial parameters [17,21]. Many studies also tried to identify protective factors reducing the impact of COVID-19 on mental health or factors improving mental and psychosocial health of home-bound children and adolescents. For the purpose of data analysis, the following variables were chosen as the main outcome variables: depression, anxiety, and psychosocial health variables, such as fear, worry, clinginess, loneliness, stress, emergency visits, sleep disorders, eating disorders, etc. On analyzing the findings of various studies, the following inferences were made, with a detailed summary found in table 3.

Study	Depression N (%)	Anxiety N (%)	Other Mental Health Variables N (%)
Zhou S-J., <i>et al.</i> 2020 [26]	n = 8079 (43.7%) Male = 3753(41.7%) Female = 4326 (45.5%)	n = 3020 (37.4%) Male = 1358 (36.2%) Female = 1662 (38.4%)	
Xie X., <i>et al.</i> 2020 [24]	Male = 22.5% Female = 22.7%	Male = 18.4% Female = 19.6%	
Chen F., <i>et al.</i> 2020 [10]	n = 122 (11.8%) Male = 48 (9.04%) Female = 74 (14.65%)	n =196(18.92%) Male = 84 (15.82%) Female = 112 (22.18%)	68 (6.56%) both depression and anxiety
Duan Li., <i>et al.</i> 2020 [11]	n = 805 (22.28%)	Children = (23.87 ± 15.79) Adolescents = (29.27 ± 19.79)	Anxiety was higher in females, adolescents and urban population
Tang S., <i>et al.</i> 2020 [22]	n = 857(19.7%) Male = 451 (20.4%) Female = 406 (19.1%) Senior school = 32.2%	n = 1080 (24.9%) Male = 445 (24.6%) Female = 464(25.2%) Senior school = 39.3%	Stress = 659 (15.2%)
Ellis W E., <i>et al.</i> 2020 [13]	n = 301(28%) Females reported higher rates of depression		Loneliness
RavensSieberer U., <i>et al.</i> 2020 [18]		24.1%(SCARED)	Low HRQoL - 40.2% More changes in females, younger children affected more
Yeasmin S., <i>et al.</i> 2020 [25]	Combined scores – Mild Disturbance Moderate disturbance Severe disturbance	117 (30.5%) 74 (19.3%) 28 (7.2%)	
Ezpeleta L., <i>et al.</i> 2020 [12]			Conduct problems = 29.9%, peer problems = 13.2%, prosocial behaviour problems = 12.4%
Jiao W Y., <i>et al.</i> 2020[14]			Clinginess = 36%, distraction = 32%, irritability = 31%, fear = 21%, worry = 29%, sleeping disorder = 21%
Leeb R T., <i>et al.</i> 2020 [15]			Increase in mental health related ED visit by 24% in children aged 5–11 years and 31% in adolescents aged 12–17 years,
Oregile's M., <i>et al.</i> 2020 [16]		Anxiety = 28.4%	Behaviour changes present = 85.7%, difficulty concentrating = 76.6%, irritability = 39%
O' Sullivan K., <i>et al.</i> 2021 [17]			Depression/anxiety = 29%, negative behaviour changes = 36%, stress = 69%, social isolation = 80%
Saurabh K., <i>et al.</i> 2020 [19]			Worry = 68.59%, helplessness = 66.11%, fear = 61.98%
Singh S., <i>et al.</i> 2020 [20]			Mental and psychosocial health qualitative analysis
Shah S., <i>et al.</i> 2020 [21]	25.2% anxiety or depressive		30.7% psychosocial problems,
Xiang M., <i>et al.</i> 2020 [23]	Less depression seen during COVID pandemic than pre-COVID year		

Table 3: Mental and psychosocial health reported in studies.

### Mental health outcome

The findings of increased prevalence of depression and anxiety in the study populations related to the COVID-19 pandemic were reported by most of the studies. The prevalence of depression reported in the studies varied from 11.78% to 43.7%. Symptoms and signs of anxiety were reported from 18.9% to 37.4% of the children studied. Often, signs of depression and anxiety were found in combination. Table 3 shows the details of reported depression and anxiety where quantitative data were available. The highest percentages of these symptoms were reported by one of the largest studies from China by Zhou., *et al* [26]. In this study, the prevalence of depression symptoms, anxiety symptoms, and a combination of depression and anxiety symptoms were 43.7%, 37.4%, and 31.3%, respectively, among Chinese high school students during the COVID-19 outbreak. Another large study by Tang., *et al.* from China also reported that the three most prevalent symptoms were anxiety (24.9%), depression (19.7%), and stress (15.2%) [22]. One study reported that 25% of children were having suicidal thoughts. Sleep disorders were reported in 37.9% children and adolescents.

The study by O'Sullivan., *et al.* from Ireland reported the prevalence of depression and anxiety at 29% of the children studied [17]. A study from Bangladesh by Yeasmin., *et al.* [25] graded mental health disturbances and found that 43% of children had subthreshold mental health disturbances (mean depression: 2.8, anxiety: 2, and sleeping disorder: 1), 30.5% had mild disturbances (mean depression: 8.9, anxiety: 4.9, and sleeping disorder: 3), 19.3% suffered from moderate disturbances (mean depression: 15.9, anxiety: 9.2, and sleeping: 6), and 7.2% suffered from severe disturbances (mean depression: 25.2, anxiety: 13.4, and sleeping disorder: 8).

On the other hand, a preliminary web-based survey study from China by Xiang., *et al.* involving 2427 school children showed that school closures resulted in a decrease in Children Depression Inventory-Short form (CDI-S) scores of middle school children than the previously recorded scores [23]. However, the authors advised that these findings may be associated with less stress in the home environment than at school, especially for students in higher grades and under extreme academic pressure.

### Psychosocial health outcome

An Indian study by Saurabh., *et al.* [19], reported increased worry (68.59%), helplessness (66.11%) and fear (61.98%) related to the COVID-19 pandemic. Authors also noted that quarantined children and adolescents experienced greater psychological distress than non-quarantined children and adolescents ( $p < 0.001$ ). Another study by Jiao., *et al.* reported that children experienced increased clinginess (36%), distraction (32%), irritability (31%), fear (21%), worry (29%), and sleeping disorders (21%) [14]. A study from Spain by Ezpelta., *et al.* showed increased emotional problems in adolescents (26.2%), followed by worsening relationships with their parents, (17%), more stress in the family (11.8%), and concerns about the contagion (7.7%) [12]. A study by O'Sullivan., *et al.* from Ireland showed negative behaviour changes (36%), stress (69%), social isolation (80%) in the children due to the pandemic and home confinement [17]. Another study by Orgilés., *et al.* from Spain and Italy reported that children experienced difficulty concentrating (76.6%), boredom (52%), irritability (39%), restlessness (38.8%), nervousness (38%), feelings of loneliness (31.3%), uneasiness (30.4%), and worries (30.1%) [16].

An interesting finding seen in study by Saurabh., *et al.* [19], was that 58% children were happy to spend more time with family, 33% did not feel any anything unusual, while 7.6% children were annoyed by the constant presence of their parents.

One study by Leeb., *et al.* from United States looked at the number of children's mental health-related emergency room visits before and during COVID-19 pandemic and found that compared to 2019, the proportion of mental health-related visits for children aged 5 - 11 and 12 - 17 years increased approximately 24% and 31%, respectively [15].

### Effect of different age groups on mental and psychosocial health

Many studies analysed age as a variable to compare mental health. In studies in which comparison was done between different age groups, older children were found to have more depression and anxiety than the younger children [10,22,24]. Similarly, studies comparing data among different school grades found a higher incidence of depression and anxiety was reported in children from higher grades than lower grades [11,22,26]. The study by Jiao., *et al.* reported that the age group of 3 - 6 years showed more clinginess and fear, whereas

the age group of 6 - 12 years showed more inattention during this period [14]. On the other hand, RavensSieberer, *et al.* [18] noted that psychosocial changes occurred more in younger than older children.

### Effect of gender on mental and psychosocial health

Gender was another important variable analysed. Table 3 details the findings of studies where a comparative analysis was made in male and female children and adolescents. Most studies reported higher incidence of depression and anxiety in female children than in male children [10,13,24,26]. Duan Li [11] reported a higher anxiety score in female children and adolescents, whereas the study by Tang, *et al.* [22] showed no difference attributed to gender of the subjects.

### Effect of demography on mental and psychosocial health

Zhou, *et al.* found that depression and anxiety were seen more in children residing in rural than in urban areas [26]. On the other hand, study by Duan Li, *et al.* found that levels of anxiety were found to be higher in urban populations than rural population [11].

### Other factors affecting mental and psychosocial health during the COVID-19 pandemic

Parental stress during quarantine was associated with increased reports of emotional and behavioural symptoms in their children by a study from Italy and Spain [16]. Raven-Sieberer, *et al.* [18] found that children with a low socioeconomic status, a migration background, and limited living space were found to be affected more significantly by the pandemic.

Certain factors helped in reducing and mitigating the effect of school closures and COVID-19 and led to better mental and psychosocial health. Chen, *et al.* [10] found that physical exercise showed a protective effect for adolescents' mental health. Duan, *et al.* [11] noted that a problem-focused coping style measured on Coping Style Scale (CSS) was protective for depression. Ellis, *et al.* [13] found that family time, time connecting to friends, as well as physical activity were related to lower loneliness, with family time and schoolwork also being related to less depression. Jiao, *et al.* [14] noted that parents in their study used media entertainment over reading and physical exercise as a means to relieve their children's distress. According to Tang, *et al.* [22], those children who had discussions with their parents about COVID-19 experienced less depression, anxiety, and stress. Zhou, *et al.* [26] concluded that a high prevalence of psychological health problems among adolescents was negatively associated with the level of awareness of COVID-19 control and preventive measures.

## Discussion

This systematic review of 17 studies from different parts of the world clearly shows that children and adolescents have shown increased prevalence of depression (11.78% to 43.7%) and anxiety (18.9% to 37.4%) as a result of pandemic and its related school closures. Other mental health changes, such as stress, worry, irritability, restlessness, sleeping and eating disorders, etc., were also seen in addition to changes in the psychosocial. This review found that gender and age had an effect on the prevalence of mental health outcomes. It was noted that female gender and senior school grade was associated with more depression and anxiety.

The current review finds that the COVID-19 pandemic and its resultant effect on the closure of schools and learning spaces has made significant impact on the life of children and adolescents. This study has shown that children and adolescents are experiencing various behavior changes due to ongoing pandemic. There is a fear of these changes becoming a critical mental health problem for them. The immediate effects are seen in the form of fear, worry, stress and social isolation. These may induce various mental health changes and psychosocial behaviors in these individuals. In the current review, studies including children with pre-existing mental health condition were not included, which helped develop a clear analysis of the changes as directly related to the COVID-19 pandemic and school closures.

A previous study from China found that adolescents showed higher incidence of depression than adults during the COVID-19 pandemic [28]. Another study reported that adolescents form a highly vulnerable group during COVID-19 pandemic and present with complex mental and psychosocial health issues [29]. Our review showed that the parents themselves are also stressed due to many social and financial factors related to the COVID-19 pandemic and their sometimes inability to provide mental support to their children. One of the

included studies [22] made an observation that due to school closures, children had adjusted to new modes of learning in the form of online schooling without direct contact with their teachers. This may be a contributory factor for high prevalence of anxiety seen in the children of higher school grades.

This review showed that physical activity and exercise were helpful in reducing depression. This finding is in accordance with previous literature [30] that physical exercise can be used as a targeted strategy to improve the mental health of children and adolescents. A higher use of social media has been found to increase stress [21], whereas discussions with parents [22] and problem focused coping styles were methods to reduce stress and anxiety.

It was noted that accurate knowledge about the COVID-19 and its preventive and control measures have a protective effect on children and adolescents' mental and psychosocial health. It can be inferred that this knowledge helps them reduce anxiety and stress levels. This emphasises the need for availability of accurate information from the health authorities and to control of misinformation and social media related rumours which could confuse the adolescent mind. Online platforms could be developed where psychological support can be provided to students.

This review is limited by the fact that the most of included studies used self-reporting questionnaires by the children and adolescents or their parents, hence there could be a lack of correct assessment of mental health variables. Another limitation may be the refusal of students to participate in these surveys due to severe depression and anxiety, hence affecting the actual rates of mental health and psychosocial outcome variables, which may be higher than the reported rates.

### Conclusion and Recommendations

Going by the global trends and findings of this review, it can be concluded that the impact of the current pandemic and related changes on the mental and psychosocial health of children and adolescents will have long term implications. Governments all over the world have focused their immediate attention on controlling the pandemic and ensuring the physical health of its citizens. However, children and adolescents are one of the most vulnerable groups of population as far as mental health is concerned. If immediate attention is not paid, then long-term damage to their mental and social well-being is possible. There is an immediate need to develop a collaborative team including parents, community workers, teachers, psychologists, and physicians to address these issues in each country around the world. Any adolescent, older child, or parent of a young child should be able to access help through a website or helpline number. The use of online platforms could be employed to provide accurate information and counselling regarding COVID-19.

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