



The mental well-being of children and adolescents during the COVID-19 pandemic: A systematic review of qualitative literature

Research Paper

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ABSTRACT

COVID-19 has led to significant isolation resulting in a rise in educational inequity and mental illness among youth. A systematic literature review of qualitative studies was conducted adhering to PRISMA 2020 guidelines, to describe the mental wellbeing of children and adolescents during the COVID-19 pandemic.

The protocol has been registered in the PROSPERO International Prospective Register of Systematic Reviews. Three Electronic databases were searched for original, qualitative, peer-reviewed, full text, English journal articles published from December 2019- to May 2020, conducted among children and their parents. We extracted the results that describe the psychological impact on children and their parents amidst COVID-19

Thirteen studies were included in the final review. Four major themes (1. Negative and maladaptive behavior 2. Social and psychological disruption 3. Emotion regulation 4. Value of family time) were identified through Inductive Thematic Synthesis. Although children regulate their emotions effectively, most of the children seem to experience maladaptive behaviors which may have a devastating effect on their development. Health care professionals, caregivers, school officials, and social workers should address these aspects of childcare during a pandemic and in the post-pandemic period.

KEYWORDS

Child, COVID-19, Healthcare Delivery, Mental Health, Sri Lanka

INTRODUCTION

The Novel Corona Virus (COVID-19) was originated in the province of Hubei in China on 31st December. It was first reported as a confirmed case of pneumonia of unknown etiology and later declared as a global pandemic and a public health emergency by World Health Organization (WHO) (World Health Organization, 2020). Since this disease is known to be transmitted by respiratory droplets of an infected person and causes fatal pneumonia, it has become a prime consideration of health authorities worldwide. Every country around the globe started implementing strategies to prevent disease transmission. The world economy was falling drastically during the pandemic (Kumar, 2020). Country boundary closures, quarantine policies, lockdown policies, social distancing guidelines, and health precaution guidelines have been issued worldwide. As a social distancing strategy, all the

educational institutions were closed worldwide and the child and adolescent population were confined to their homes (Bayham & Fenichel, 2020; Grimm, 2021; Viner et al., 2020).

Prolonged home confinement due to a pandemic pose risk of serious mental issues in people. The victims of a pandemic may develop depression, post-traumatic stress disorder, and anxiety disorders (Torales et al., 2020). Studies have shown that the lack of social interactions for prolonged period make people at risk of getting suicidal ideas, and further reported that these rates are higher in women than men (Yamamoto et al., 2022).

Another study reported that depression and other social isolation outcomes were significantly associated with gender, young people, financial



status, and conflicting relationships (Moura et al., 2022).

Longer quarantine durations have led to reported fear and frustration, boredom, and stresses due to loss of supplies and support (Brooks et al., 2020). Unprivileged communities will face food insecurities, economic crises, and a lack of access to health care providers (Corburn et al., 2020).

Children and adolescents (referred to as children hereafter) have been affected much more than others. With extended school and University closure, they have fuel feelings of anxiety, uncertainty and loneliness and lead to affective and behavioral problems. Although it is hardly studied, children and adolescents (referred to as children hereafter) have become a vulnerable population during a pandemic. Children are undergoing educational inequities and various health problems such as weight gain, loss of school vaccination, and mental instabilities during school closures (Armitage & Nellums, 2020; Rundle et al., 2020). Sedentary lifestyles have put them at risk of developing non-communicable diseases (Stockwell et al., 2021). Previous literature has stated that children face mental crises during a pandemic due to being isolated from their peer groups and when confined to their home with only their families (Ramchandani, 2020; Wang et al., 2020). Parental negative feelings, activity restrictions, and stress will have negative consequences on the well-being of children (Achterberg et al., 2020).

With prolonged school closure, every educational institute is diverting into remote learning, distance learning, and online learning. Children experience extra burdens when continuing their studies in this era due to lack of access to new technology, low internet quality, low resources at home, and difficulty of managing available technical devices and learning aids (Garbe et al., 2020).

Social distancing policies have exposed the child population to prolonged stress and anxiety. Since brain studies have shown that prolonged stress exposure will have serious negative effects on the development of the child, the psychological well-being of a child during this era should be studied (Panda et al., 2020; Romeo, 2017). Public health authorities and clinicians need to have an accurate estimate of the nature, severity, and extent of these behavioral abnormalities and psychopathologies, both in typically developing children and children

experiencing behavioral abnormalities, as well as their caregivers.

Although many studies from different parts of the globe have tried to address the impact of the COVID-19 pandemic on the mental health of children and adolescents, the prevalence and severity of these psychopathologies seem to vary widely. Existing studies are sometimes criticized because they have small sample sizes which limit their reliability and practical application. We conducted a systematic review of qualitative literature intending to strengthen our understanding of the mental well-being of children, teenagers, and adolescents amidst the COVID-19 pandemic. The studies that report experiences, perceptions, feelings, and observations related to the psychological well-being of the children, teenagers, and adolescents were included in the review.

We used stringent criteria to make sure that the voices of children and parents affected by the COVID-19 pandemic were included.

METHODS

The protocol of this review has been registered in PROSPERO International Prospective Register of Systematic Reviews under the registration number CRD42021262628. We have followed the protocol of PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analysis) 2020. All the elements of the PRISMA 2020 statement have been addressed when developing the protocol and throughout the study (Page et al., 2021; Page et al., 2020). The reviewing of studies was carried out from April 2021-August 2021.

Study Design

Studies were selected and excluded according to the SPIDER (Sample, Phenomenon of Interest, Design, Evaluation, Research type) tool (Cooke, Smith & Booth, 2012).

Inclusion Criteria

The sample was healthy children (not diagnosed with any psychological disorder) aged from 1 year to 18 years old and their parents. The phenomenon of interest was experiences, perceptions, feelings, and observations related to the psychological well-being of the selected population during the COVID-19 pandemic. Research designs were qualitative (e.g.,



through grounded theory, ethnography, phenomenology, action participatory research, interviews, focus groups, questionnaires with open-ended questions).

Mixed methods studies were considered for inclusion if they report qualitative data. Studies that include stress or anxiety behavior during the COVID-19 pandemic as a sub-analysis or secondary analysis were considered for inclusion. The evaluation was qualitative reporting of psychological impact during the COVID-19 pandemic. The research type was original, full-text journal articles published in the English language from 2019 December to 2021 May.

Search Strategy

A literature search was conducted in three electronic databases (MEDLINE PubMed, CINAHL, ScienceDirect) independently by the two investigators. Google Scholar through Hinari Access by WHO was used to find grey literature relevant to the topic. Boolean Algorithms using the keywords; mental health, psychological well-being, adolescents, children, teenagers, COVID-19, Corona Virus pandemic were used. The search strategy was first piloted in MEDLINE PubMed and appropriately modified to each database.

Duplicates were removed using Mendeley referencing manager software.

Terms were searched in Title/Abstract. The abstract screening was done after the initial search to find relevant articles. If abstract screening did not provide sufficient information for inclusion and exclusion, the full text was read. Reference lists of included studies were searched to identify additional papers. Relevant literature already known to authors was also screened for inclusion.

Quality Appraisal

Assessment of the quality of the selected studies was guided using the Joanna Briggs Institute (JBI) quality appraisal tool for qualitative research; and was conducted by both members of the research team independently (SPKJ, AMSD). The findings were reviewed and discussed until a final consensus was reached. There were no cases of disagreement. However, should there have been any disagreement, a researcher, external to the research team would have been consulted. This tool is a checklist consisting of ten questions. For each question the

reviewer selected between the answer choices: yes; no; unclear; not applicable. A score of 1 was allocated for each statement if the study fulfilled the relevant criteria.

Data Collection and Analysis

JBI QARI-Data Extraction Tool for Qualitative Research (McInnes & Wimpenny, 2008) guided the data extraction. The following data were extracted: population, context, culture, geographical location, study methods, and the phenomena of interest relevant to the review question and specific objectives, data analysis methods, and findings in the form of themes, observations, and illustrations were extracted. Findings that describe the psychological impact, emotions, feelings, and experiences of children, adolescents, and teenagers, during the COVID-19 pandemic, were extracted from the included articles. Data were entered independently by one investigator, and then independently reviewed by a second investigator. Following the completion of data entry, the two investigators met to discuss extracted data; disagreements were resolved by consensus.

The inductive thematic synthesis was used for data synthesis (Thomas & Harden, 2008). Repeated reading of the text line by line was done independently by the two reviewers (SPKJ, AMSD) to identify codes and themes manually. Thematic synthesis utilizes a three-stage method for data synthesis: (1) free coding of findings in the included studies, (2) organizing data into descriptive themes, and (3) generating analytical themes that combine the findings of individual studies into interpretations that cross the findings of the studies. In parallel to this, the findings of each study were analyzed using NVIVO by AMSD, and themes identified by both methods were discussed in a meeting to arrive at a final agreement. Appendix 01 is available online to describe the identification of codes and categories.

RESULTS

A total of 4127 full-text, English, journal articles were identified. After the removal of duplicates 4101 remained. Grey literature search identified 4 relevant articles. During title/abstract screening 3987 were excluded due to: reviews and systematic reviews (n=425), meta-analysis (n=11), clinical trials (n=30), case reports (n=66), editorials (n=61), commentaries and brief communications (n= 76), quantitative studies (n=3318). From the remaining 118 studies, 13



studies that met inclusion criteria were included after reviewing the full texts. In total, 105 articles were excluded due to: the study population being the schoolteachers, children with mental illness, and describing only COVID-19 precaution guidelines.

The two reviewers agreed to include articles of medium or high quality for the final review. Out of the final 13 articles, 2 articles were medium quality and 11 were high quality (Figure 1).

An overview of the selected papers is presented in Table 1. Following the analysis process the following themes were identified: Negative and maladaptive behavior, Social and psychological disruption, Emotion regulation, Value of family time. The summary of the final core themes and the descriptive themes identified is represented in Table 2.

Negative and Maladaptive Behavior

Most parents complained that children’s behavior has been changed negatively during the time of home confinement. Because of the inability to play outside with friends their mobility has decreased. Disruption to the usual daily routine of the children resulted in changes in their eating behaviors and sleep patterns.

“The lack of physical activities of the children due to their inability to play outside has changed their usual daily routine.”

“... they are wasting their time playing games. Sleeping and waking up late is a habit (now). There aren’t many (physical) games at home and the kids have also started eating more.” (Bhamani et al., 2020)

“I was playing a game alone or with my friends outside the home before corona, but now I play a video game after a corona.” (Abdulah et al., 2020)

Together with that children have become anxious when transitioning to the new environment and new routines. Compared to adults, children have a lower capacity of adapting to a new environment or a routine. Therefore, they exhibit unusual behaviors during this transition.

Since they spent more time with their parents, they displayed behaviors such as being demanding and more clingy than usual. Children exhibited maladaptive behaviors due to the lack of their usual playtime, being depressed, and lonely.

A parent of a 3-year-old girl said she was *“more subdued and wants to go to bed more often”* (Egan et al., 2021)

He is a lot more demanding, and his behaviors have reverted to that of a younger child.

“..... “very out-going and loved seeing her friends” before lockdown. As a result of lockdown , however, her daughter “has become very attached to mum and is cautious at first when she sees someone out of the family or home” (Egan et al., 2021)

According to Fitzpatrick et al. (2020), the most significant issue of the children identified by the caregivers was *‘misbehavior’*. Impulsivity and needing attention were also commonly reported.

“I’d say he would miss the social aspect . . . we have observed certain things, certain behavioral changes, not big things, but just there’s more frustration from being home all the time” (O’Sullivan et al., 2021).

“... went backward and he was starting to bed wet again”

“.. he’s an absolute nightmare or beating up his sister, one or the other” (O’Sullivan et al., 2021)

Social and Psychological Disruption

With the pandemic, children may have depression with the fear of getting infected and fear of their family members being infected and hospitalized.

“There is corona everywhere outside the house. I am so depressed now..... it is so strong to infect my family members” (Abdulah et al., 2020)

The parent of an 8-year-old boy said, *“He has become very moody and lazy”*.

“It’s because he gets bored a little being locked down” (Valadez et al., 2020)

Children are emotionally vulnerable, and this made the lack of their usual social life with friends and peer groups affect their mental well-being.

“I feel sad because I can’t see my friends and cousins.”

“Sad because I don’t see my cousins.”

“Sad because I can’t share with my friends.” (Valadez et al., 2020)



“Yeah, I think that kills them the most with not having any social time, not seeing their schoolmates.”

“He went really into himself- really shy, now that has all completely turned back around, he is back to his old self now” (O’Sullivan et al., 2021).

Lack of social interactions even placed the children at risk of developing symptoms of mental disorders.

“Our moods were very low. He was very tearful. At one stage he even asked me to get a counselor. That’s how depressed he was getting.” (O’Sullivan et al., 2021)

Scott et al. (2020) reports several results related to “disruption to social interactions”

(Participant 1,910), “not able to see anyone”

(Participant 1,704) “finding alone time”

(Participant 1,685) “feeling alone, Isolation”

Emotion Regulation

As explained by CátiaBranquinho et al. (2020), many teenagers engaged in pleasurable activities as coping strategies.

“Children engage in video calls with friends to cope up with the boredom and loneliness.”

“...spends more time on a device as she can talk with her friends that way.” (CátiaBranquinho et al., 2020)

Spending more time with the family also helps them to avoid stress during the pandemic.

“There is more tv... but always as a family”. (Carroll et al., 2020)

Some teenagers have found writing letters to their friends excited during the lockdown and it has helped them to distract from their negative feelings

“Whenever you do get a letter, it’s quite exciting . . . it was kind of like the thrill of it.” (Scott et al., 2020)

Value of Family Time

Many studies have identified this home confinement as an opportunity for family members to strengthen their bonds.

“I like to be at home and playing with the family also makes me very happy” (Girl, 9 years); “I feel happy and cheerful at home with my parents”.

“I especially like it when it’s eight o’clock in the evening and we go out to the balcony to clap for the doctors and people are singing and dancing, and it’s very nice” (Idoiaga Mondragon et al., 2020)

“We do more things together”, “We play cards, we cook together”

“We spend more time-sharing ideas”, “We’re closed”,

“The quality of our relationship has improved” (Ares et al., 2021)

DISCUSSION

This study has identified important aspects on the mental well-being of children and their families during a social isolation.

Since the parents and the guardians also have been confined at home, changes in the usual behavior of children may have effects on the health of the caregivers as well. Parents may feel exhausted since they must deal with unusual behaviors such as being clingy all day, being demanding, and aggressive. Previous studies have identified that parents have become stressed during home confinement amidst the pandemics when they were unable to provide the necessary facilities which were needed to fulfill the demands of the child (Marchetti et al., 2020; Orgilés et al., 2020; Spinelli, Lionetti, Pastore et al., 2020). On the other hand, parental stress will again have detrimental effects on the child’s psychological well-being and their behavior.

The working parents may find this more disturbing. Parents who work in the health care force and essential services during a lockdown must balance the stressful environment at work and at home. The fear of infecting their children may induce anxiety. Mothers may find parenting more demanding at this time since they are the primary caregivers of children.

Some parents had to work from home during the lockdown. Sharing personal space at home may have become a huge problem for some families. Parents may have had to concurrently complete childcare activities while meeting the demands of their job.



This has been identified as a major factor for parental stress by other studies (Spinelli, Lionetti, Setti et al., 2020).

Children were unable to keep track of the passage of time due to the changes in their usual daily routine. This has disturbed their sleeping patterns. Parents have reported that they spend more time in bed or rarely sleep on time. Another study has explained the fact that home confinement during the COVID-19 pandemic has changed the sleep quality of both children and their parents (Cellini et al., 2020).

Parents have complained that the screen time of the children also has increased, and they have tended to play video games more. This may develop into internet addiction in the future if proper guidance will not be given to them. Previous literature has shown that there is a strong relationship between playing video games, internet addiction, and psychological disorders such as Attention Deficit Hyperactive Disorder (ADHD) among children (King et al., 2012; YOO et al., 2004).

Therefore, we can say that this home confinement may bring devastating effects on child's mental health and their development.

A promising finding is that despite these difficulties, children were able to identify various activities to cope with their emotions during home confinement. This is a significant finding and school officials, stakeholders, and caregivers could promote such activities for the children in a future pandemic.

Having an opportunity to enhance family bonds is a positive aspect of this difficult time. Family time, or "doing things together," is an important way to cope with emotional breakdowns. This time may have enabled them to manage everyday challenges and to connect with other family members and their feelings during the lockdown. Conversations with the parents and siblings may allow the children to express their fears and concerns about being home confined and getting infected. This expression of feelings may reduce their anxiety levels as well.

LIMITATIONS

The literature search is limited to three electronic databases.

CONCLUSION AND RECOMMENDATION

The findings of this review highlight the impact of home confinement due to the COVID-19 pandemic on children. These findings are important for mental health care staff and maximizing opportunities for building resilience in affected children. Key issues of concern include the provision of timely and age-appropriate information, and the provision of support to both parents and children to assist in the development of appropriate coping and support mechanisms. A family-centered approach is essential in planning each intervention.

There is also a need to raise awareness among mental health staff of children's needs through training and educational programs which promote children's mental health in future pandemics.

Tele-health programs and tele-counselling programs can be implemented as strategies to reach these vulnerable populations if such social distancing policies imposed in future pandemics.

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Figure 1. PRISMA flow chart for the data screening process

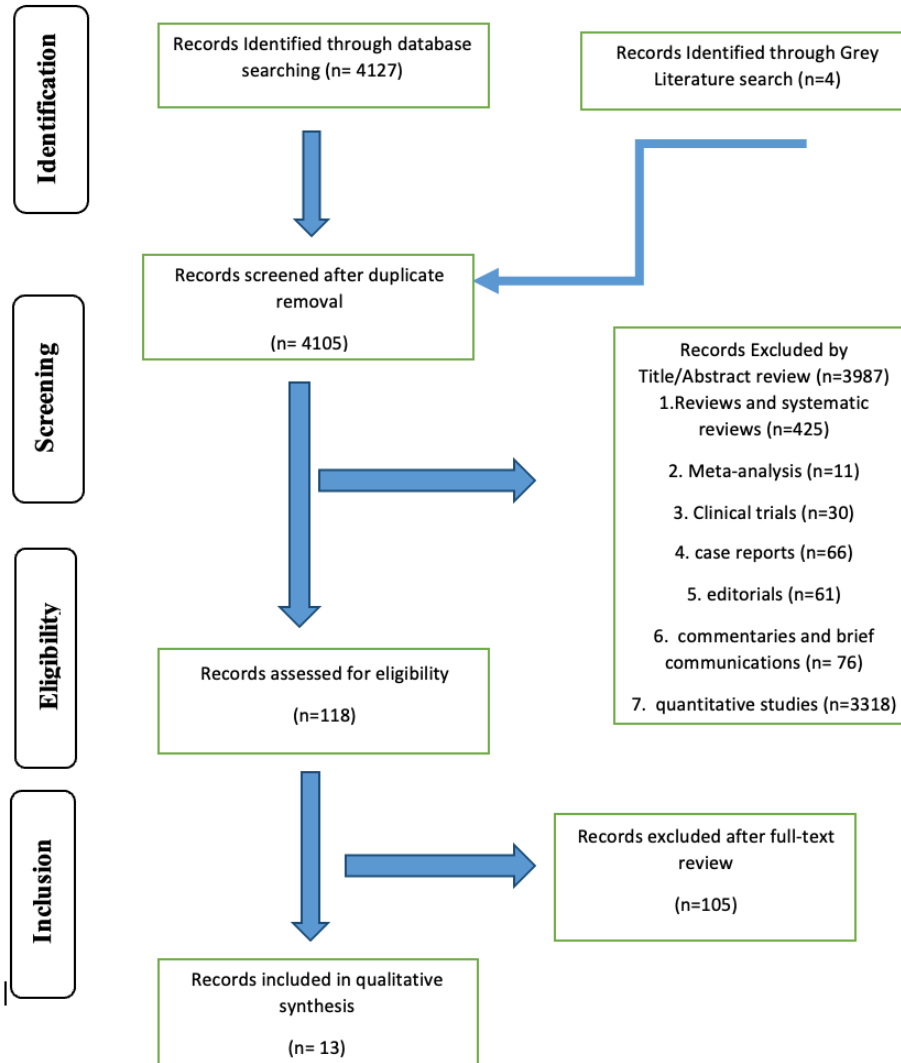


Table 1. Summary Studies Included in Review

Author and Year	Context	Culture	Geographical Location	Methods	Phenomena of Interest	Objectives	Data Analysis	Findings
Abdulah et al., 2020	Emotional effects of children during home confinement due to an outbreak	Children who were home confined during the COVID-19 pandemic in the Kurdistan Region of Iraq.	Iraq	Art Based Qualitative study	Psychological impact and mental health of children at the peak of the COVID-19 pandemic in Kurdistan	Examine the emotional wellbeing of the children who were confined at home during the COVID-19 outbreak from their perspective	qualitative content analysis	<ol style="list-style-type: none"> 1. Fear of infection in children 2. Safety perceptions during home confinement 3. Relationship of children with siblings and parents
Bhamani, et al., 2020	Homeschooling during COVID-19 pandemic	Parents residing in urban areas of Pakistan	Pakistan	A descriptive qualitative design using open-ended questions via google doc forms	Personal experiences of parents managing learning at home during the times of COVID-19.	Exploring experiences of parents regarding home learning and management during the times of COVID 19	Manual thematic analysis	<ol style="list-style-type: none"> 1. Impact of COVID on children's learning 2. The support given by the schools 3. Strategies used by caregivers at home to support learning
Bove et al., 2021	Experiences of families with children and adolescents during COVID-19 pandemic.	Families with a child under 18 years old.	Uruguay	A mixed-method study.	Life of families during the implementation of social distancing measures.	To explore the experiences of families with children and adolescents during the coronavirus	Content analysis based on inductive coding by Krippendorff 2004	<ol style="list-style-type: none"> 1. Staying at home 2. Work-related changes 3. Social life 4. Mood changes



						(COVID-19) pandemic in Uruguay.		<ol style="list-style-type: none"> 5. Hygiene and cleaning 6. Education 7. Routines and habits 8. Family life 9. Economic aspects 10. Preventive measures 11. Lack of outdoor activities 12. Positive changes 13. Organization and planning 14. Changes in the environment
Carroll et al., 2020	Health behaviors of families during COVID-19 pandemic	Canadian Families	Canada	Mixed method study	Health behaviors, stress, financial, and food security among families during COVID-19 pandemic	To identify how health behaviors, level of stress, financial and food security have been impacted by the pandemic among Canadian families with young children.	Thematic analysis by Braun and Clarke	<ol style="list-style-type: none"> 1. Physical Activity and Screen Time Changes 2. Children's Mood and General Behaviour. 3. Factors that Increase Family Stress 4. Strategies to Cope with Changes



								5.Helpful Resources
CátiaBranquinho et al., 2020	Adolescents and young people's experience in the COVID-19 pandemic	School and university students	Portugal	Qualitative study	Adolescents and young people's perception of the impacts of the pandemic upon them, as well as their competence to participate in the issues that directly affect them	(1) To give adolescents and youth a voice and listen to the impact of coronavirus disease 2019 (COVID-19) in their lives; (2) to identify their coping strategies; (3) present lessons learned to be better prepared for future pandemics.	content analysis using MAXQDA 2020	<ol style="list-style-type: none"> 1. Biological, psychological, social impact 2. Coping strategies 3. Lessons for future pandemics
Egan et al., 2021	Early childhood education and care during the lockdown in the COVID-19 pandemic	Parents of the home confined young children during the COVID-19 pandemic	Ireland	Mixed method study	Socio-emotional impact on young children due to closure of early childhood education care settings during COVID-19 pandemic	Draws upon data gathered online from parents during the initial period of lockdown in Ireland, and provides insights into the socio-emotional impact of the COVID-19 crisis on	Thematic Analysis by Braun & Clarke	<ol style="list-style-type: none"> 1. 'missing' from a structural perspective (early childhood education and school, activities, structure, routine) 2. 'missing' from a relational perspective, as a lack of interaction was another key theme. 3. Another key theme to emerge



						young children.		from the data related to the socio-emotional impact that the lockdown had on children and their parents, with both negative and positive effects noted by parents.
Fitzpatrick et al., 2020	Child, adolescent, and caregiver mental issues during COVID-19 pandemic	Ethnically diverse caregivers of children and adolescents (1–19 years old)	USA	Mixed method study	Mental issues of families of children and adolescents amidst COVID-19 pandemic	informing which intervention programs, focusing on which problems, might be most appropriate and effective for families during this and future contagious disease outbreaks, as well as other crises that have similar impacts on family functioning	Thematic Analysis by Braun and Clarke	<ol style="list-style-type: none"> 1. Caregiver-identified emotional, behavioural, and mental health top problems of children and adolescents (includes 17 themes) 2. Caregiver-identified emotional and behavioural needs of children and adolescents (includes 14 themes) 3. Caregiver mental health needs assessment (includes 13 themes)
Mondragon et al., 2021	Home confined children during the lockdown in Spain	School children of Basque Country region	Spain	A qualitative study	Coping strategies of children during a pandemic	To gather the voices of children in lockdown during the	The Reinert method uses Iramuteq software for lexical analysis.	Children reported having mixed emotions in lockdown; whilst they are happy



		located in Northern Spain.				COVID-19 pandemic in Spain to examine how they are coping with this health crisis.	This method has frequently been used to study the content of open questions.	and relaxed with their families, they also feel fear, nervousness, worry, loneliness, sadness, boredom, and anger. At a physical level, Children noted it was difficult to be deprived of fresh air for weeks, which also makes them primarily sedentary, and they missed outdoor exercise. Socially, they missed peers and caregivers.
Pham & Shi, 2020	International students who are away from their home country during the COVID-19 pandemic.	Vietnamese students living in New York	USA	In-depth interviews via Zoom platform.	The root causes of mental distress among Vietnamese students in New York City.	To examine how the COVID-19 pandemic affects the mental distress of the Vietnamese students in the USA., To explore different root causes of mental distress	Narrative textual analysis.	<ol style="list-style-type: none"> 1. Unsafe living conditions 2. Interruptions of school. 3. Interruptions of work 4. Got sick and had limited access to healthcare services 5. Cannot go back to my home country. 6. Isolation at home, Unable to access public facilities.



						among international students who are away from their home country, their loved ones, and being isolated from school and community due to this outbreak.		<ol style="list-style-type: none"> 7. Unstable future on the carrier after graduation 8. Racism 9. Cultural factors
Scott et al., 2020	Life of adolescents during school closure due to COVID-19 pandemic	Multi-racial school children of urban high schools	USA	Qualitative study	Challenges faced by adolescents during school closure and home confinement.	To determine what adolescents reported as their biggest challenges faced during the COVID-19 school closures and social-distancing policies	Content Analysis	<ol style="list-style-type: none"> 1. Academics and work habits 2. Mental health 3. Physical health 4. Friends 5. Family 6. Routine 7. Social connection and community 8. COVID-19 rules and adjustments 9. Future 10. Socio-economic 11. Important events 12. Exposure to COVID-19 13. Technology 14. Miscellaneous
Valadez et al., 2020	Emotions and reactions do children and adolescents show from the	Children aged between 5- and 14-years old belonging	Mexico, Spain, USA	Mixed Method Study	to study the emotional reactions of children, with high ability using	know and compare the emotions and reactions to confinement due to the	ALCESTE software. AnalyseLexicale par Contexte d'un Ensemble de Segments de	Female students show more concern, but also more sympathy and personal satisfaction.



	confinement of COVID-19	to the community and high ability lives in Mexico, Spain, and the USA			community samples, to understand their emotions and reactions to the confinement that has been required since the health alert for COVID-19	COVID-19 pandemic in children and adolescents with high abilities and community samples	Texte (ALCESTE) has been developed to respond to the needs and problems of social researchers when using instruments with open questions, in-depth interviews, or answers (texts) based on projective techniques	Adolescents are less worried than children Need to socialize with their peers.
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Table 2. Summary Themes Identified

	Initial codes	Descriptive themes	Finalized major themes
001	Fear of getting infected, peer groups, play time, group study, boredom, work stress from online classes, worrying about future, anxiety, sadness, loneliness, guilty of being Asians	<ol style="list-style-type: none"> 1. Major life transition 2. Understanding the situation 3. Recreational activities at home 4. Spending time with siblings and parents 5. Symptoms of mental illnesses 6. Negative emotional responses 7. Interpersonal problems 8. Psychological distress 9. Impact of daily life and routines 10. Impact on health and well-being 11. Positive impact on health 12. Breaking routines and relax routines 13. More time to spend with the family 14. Sense of insecurity 15. Screen time issues 	<ol style="list-style-type: none"> 1. Negative and maladaptive behaviour 2. Social and psychological disruption 3. Emotion regulation 4. Value of family time
002	Socialization, disciplines, socio-emotional skills, negative effect on confidence, recreational activities at home, disrupted sleep wake cycle, emotional support from school		
003	Fear of the virus, fear of hospitalization, fear of going to school, depressed, loss of peer groups, play time, more time with parents, social skills, stressed, loneliness		
004	Social development, boredom, loneliness, loss of peer groups, worrying, subdued, spaced out, emotionally demanding, tantrums, sleep disturbances, isolation anxiety, behavioral issues, mood changes, play time with siblings, clinginess		
005	Misbehaviors, anxiety, stress, social isolation, depression, tantrums, attention deficit, hyperactivity impulsivity, fear of future, worries about failing schools, socialization, loneliness, insomnia, troubled sleeping, anger, being irritable, boredom, no enough mental stimulation, lazy, frustrated, disciplines, distress		
006	Isolation, fear of infection, play time, rest time, interactions with siblings, peer groups, boredom, anxious, happy to be with family, hope, sadness, fear of going to school, excited, fun		
007	Stress, inability connect with technology, low mood, socially withdrawn, social isolation, tearful, peer groups, upset, loneliness, hatred, behavioral changes, frustration, clinginess, decreased attachment security, maladaptive behavior, daily routine, stress over home schooling, depression, disappointment, lack of freedom, family issues, sleep disturbances		
008	Depressed, anxious, relaxation, less tired, loneliness, dependence, substance abuse, sleep pattern, social life, time with family, boredom, daily routine, domestic violence		
009	Irritability, frustration, boredom, restless, missing school, anxiety, happy, sleep time, enjoying time with family, social development, slower morning routine, stress, fear of getting infection, depression, intimate relationships		
010	Boredom, feeling lonely, anxious, self-consciousness, anger, worrying, missing people, uncertainty about future		



011	Missing close people, wants to cry, boredom, loneliness, sadness, angry, upset, happy, cheerful, very fun, scared, fear of infection, nervous, little scary, recreational activities at home, calm, relaxed, siblings, prison		
012	Rest, relax, happy, sad, sacrifice, annoyed, frustrated, low mood, missing school, missing special festivals, freedom, lonely, normality, stress, guilt, confusion, emotional, little energy, fear of infection, family bonds, uncertainty, crying, fear of infection, worsening present mental problems		
013	Worried, fear of infection, missing friends, relatives, stressed, can't smile, confused of information, boredom, obsession about cleaning, restless, family bond, arguments, fights, happiness		