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**Data richiesta:** 01/03/2024 09:43:07

**Biblioteca fornitrice:** Biblioteca della Scienza e della Tecnica - Università di Pavia

**Data evasione:** 01/03/2024 09:51:21

**Titolo rivista/libro:** International journal of social psychiatry Online

**Titolo articolo/sezione:** Psychological response of children to home confinement during COVID -19: a qualitative arts-based research

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**ISSN:** 1741-2854

**DOI:**

**Anno:** 2021

**Volume:**


**Fascicolo:**

**Editore:**

**Pag. iniziale:** 1

**Pag. finale:** 10

# Psychological response of children to home confinement during COVID-19: A qualitative arts-based research

International Journal of  
Social Psychiatry  
2021, Vol. 67(6) 761–769  
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DOI: 10.1177/0020764020972439  
journals.sagepub.com/home/isp  


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## Abstract

**Background:** The evidence has shown that children are more susceptible to the emotional effects of traumatic events such as outbreaks with the possible disruption in their daily lives.

**Aim:** In this paper, we discussed the psychological wellbeing of children during the COVID-19 outbreak through the art-based qualitative study using the drawing method among children in Iraqi Kurdistan.

**Methods:** In this qualitative arts-based research study, 15 children aged 6 to 13 years old who were confined at home during the COVID-19 outbreak for at least 1 month were included following obtaining the consent from their parents. The children were asked to draw his/her feelings, reflections, and responses during the COVID-19 on a paper. The children were guided to paint their reflections during the COVID-19 based on the following criteria: if they experienced loneliness, tiredness, insomnia, depression, worry or anxiety, or have behavior changes and their relationship with their parents and other siblings.

**Results:** This study showed that children have a high level of stress at home during the COVID-19 outbreak. The children had great fear about the coronavirus. They experienced loneliness and stress, and felt sad, depressed due to home confinement and social distancing. The possibility of infection by coronavirus has occupied their entire mind. Mental health care providers must take the experiences of children who are caught in this global pandemic seriously and ensure that appropriate care is offered to the children and their parents.

**Conclusions:** The children exhibited a strong feeling of distress, loneliness, and fear during the COVID-19 outbreak. This has implications for mental health care.

## Keywords

Art-based method, drawing method, emotional wellbeing, outbreak, pediatric population, COVID-19

## Introduction

The World Health Organization (WHO) declared a new coronavirus disease called COVID-19 in January 2020 as a Public Health Emergency of International Concern. WHO announced that the COVID-19 has a high risk of spread to other countries and characterized it as a pandemic in March 2020 (World Health Organization, 2020a). COVID-19 impacts on both physical and psychological wellbeing of a large number of people around the globe. The life of most individuals has also been dramatically changed during this novel coronavirus outbreak. In almost all parts of the world, there have been strategies to deal with the virus including social distancing and home confinement (Abdulah et al., 2020).

Studies have reported that children are more susceptible to the emotional effects of traumatic events with the possible disruption in their daily lives (Jones et al., 1994; McLean,

2016). Children have to struggle with substantial adjustments to their routines, like school and child care closures, home confinement, and social distancing. The preventive measures could impact the sense of structure, predictability, and security. The children, including infants and toddlers, observe the environments and peoples. In this regard, they

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react to the stress of their parents and other caregivers, peers, and community members (Bartlett et al., 2020). Being caught in the COVID-19 outbreak pandemic is considerably stressful for children and can lead to traumatic stress, and endangers the children to the sense of security, leave them helpless and susceptible (HelpGuide, 2020).

The Kurdistan Region's Ministry of Health has worked closely in coordination with the WHO to take all necessary measures against this virus (Kurdistan 24, 2020). The Ministry of Health reported four confirmed cases of COVID-19 in the region (Kurdistan Regional Government, 2020). It announced on Friday, February 25 that it would take all required measures to prevent this new fatal virus within the autonomous Kurdistan Region of Iraq. As a result, Kurdistan Regional Government (KRG) closed all governmental organizations and the interconnected routes except for medical and security settings and announced a curfew for a limited time (Kurdistan 24, 2020).

Currently, there is no information about the psychological impact and mental health of children at the peak of the COVID-19 pandemic in Kurdistan. We need the research data to establish evidence-based strategies to ameliorate adverse psychological impacts during the COVID-19 outbreak. In this regard, we aimed to examine the emotional wellbeing of the children who were confined at home during the COVID-19 outbreak from their own perspective using arts-based method of drawing in this study.

## Methods

This paper is based on a qualitative study that employed an art-based method for data collection. Arts-based methods have been employed in research involving children and other vulnerable groups in the health science (Benza & Liamputtong, 2017; Fernandes et al., 2014). The method is essential when we know little about the investigated issues (Liamputtong, 2020). We employed the drawing method in the study on which this paper is based. The drawings can "act as a nonverbal stepping-stone into the world of experiences and emotions" of people (Søndergaard & Reventlow, 2019). They can convey the meanings, feelings, and experiences of research participants to researchers with ease (Søndergaard & Reventlow, 2019). The use of drawings as a research method has provided an extremely useful means for conversations about difficult and taboo subjects with the research participants (Liamputtong, 2007; Liamputtong & Benza, 2019; Liamputtong & Suwankhong, 2015; Søndergaard & Reventlow, 2019; Westall & Liamputtong, 2011). Researchers have adopted this method with children and they found that children are able to express their voices through image better than through verbal responses (Liamputtong & Fernandez, 2015; Søndergaard & Reventlow, 2019).

In this study, fifteen children aged 6 to 13 years old (seven boys and eight girls) who were confined at home during the COVID-19 outbreak for at least 1 month were

included. The written consent form for all children was obtained from their parents before inclusion in the study. The parents of the children accepted to write the triple name of the children in this study. The children included in this study were first reached by personal contacts and later recruited by a snowballing sampling method (Liamputtong, 2020) where we asked the children to invite other children they knew to participate in the study. We had no rejection from the invited children in this study. The data collection was performed between 25 April and 2 May 2020.

The second author who is an art researcher visited the children at their homes (with the permission of their parents). The required information, such as study goals and drawing techniques was explained to the parents and children. He described the psychiatric terms to all children in a uniform way. The medical terms were explained by using alternative words that are commonly used in the community. For insomnia, he asked the children if they had experienced the following issues, unable to fall asleep at night, sleep interruption (insomnia), or felt difficulty in waking up. The depression was described as a change in their moods during home confinement time, change in internal motivations, or change in personal and daily activities. For anxiety, the children were explained worries for daily activities during the home confinement. Also, the children were free to present their other feelings through drawings. At the end, the author asked the children to explain the meaning of their paintings.

The second author guided the children about the painting and how to draw it. The children were asked to draw his/her feelings, reflections, and responses during the COVID-19. The children were asked if they experienced loneliness, tiredness, insomnia, depression, worry, or anxiety, and invited to show their feelings on drawings. The required materials including pencil, eraser, a box of wooden colors and a paper were provided to the children. Each child took left between 1 and 1.5 hours to think and draw their paintings. The author explained the required information to the children in a room without the presence of their parents. We did this strategy because we felt that the parents could help children to show something different than their children. In addition, we hypothesized that the children would not be happy to show their relations with parents through drawings.

## Data analysis

We analyzed the data using the qualitative content analysis method (Liamputtong, 2020). The explanations the children provided were analyzed for meanings. We made the interpretations from the children's explanations and supplemented with their drawings.

## Ethical views

The protocol of this study was approved by the Ethics Committee of the College of Nursing, the University of



Duhok registered as number 9 in April 15th 2020. According to provisions of the Declaration of Helsinki. The written consent form was obtained from the parents of the study before including the children into the study. The parents of the children agreed to put the pseudo names of their children on their paintings.

### Authors' credibility

The first author, a public health researcher, designed the methods of this study. He guided the second author on how to make interviews with all children to avoid bias. The concepts of the study including loneliness, tiredness, insomnia, depression, worry or anxiety, behavior changes and relationship of the children with their parents and other siblings were discussed with the second author before interviews. In addition, he guided the interviewer to make the interview with children without the presence of their parents to avoid the parents interferes with study outcomes. Besides, the first and third authors analyzed the feelings of the children on drawings using a qualitative content analysis method.

The second author had a previous relationship with the parents of the children in this study, but not with children. He has also done several similar works with children with psychological disorders, including cancer and autism patients, traumatized children, and children with depression. He has 20 years' experience in fine arts. Besides, he has worked as a researcher in the effectiveness of art-based interventions on psychological disorders since 2017. Both the first and second authors have published works on the effectiveness of art-based interventions on psychological disorders, including suicide, psychological wellbeing, and quality of life.

The third author is an experienced qualitative researcher and has done extensive work with migrants, refugees and children. She has also conducted many arts-based qualitative research including the use of drawing method with children and adults in the health and social science fields.

## Results

A total of 15 children aged between 6 and 13 years were participated in this study. The mean age of the children was 9.7 (*SD*: 2.4 years) included males ( $n=7$ ) and females ( $n=8$ ), see Table 1.

We presented the meanings of the children's drawing in the following three themes: fear of infection in children; safety perceptions during home confinement; and relationship of children with siblings and parents

### Fear of infection in children during home confinement

Most of the children had a fear of infection by a coronavirus. They believed that if they went outside their home, they would be infected by coronavirus infection (Figure 1). R.S.M., a girl aged 13 years, believed that the

**Table 1.** General characteristics of children.

Participants	Age (years)	Gender (M/F)
R.S.M.	13	Female
ST.S.H.	7	Female
S.H.M.	7	Male
V.A.K	10	Female
L.Z.M.	6	Female
M.I.K.	7	Male
H.H.M.	10	Female
S.S.H.	8	Male
S.I.A.	13	Male
M.B.M.	10	Male
A.S.R.	13	Female
S.I.K	12	Male
M.Z.M.	9	Female
Rof.S.M.	9	Female
Mo.Z.M.	12	Male
Mean ( <i>SD</i> )	9.7 (2.4 years)	
Male/Female	7/8 = 0.88	

*Note.* The names of the children are pseudo names to protect their true identity.

coronavirus would be outside the house waiting for her. She painted her house with many coronaviruses outside. She also painted the police outside the home that did not allow anyone to go outside.

*If we go outside the home, we will be infected by this virus [coronavirus]. So, we are safe at home. You have to go outside only when you need something and you have to wear the mask and gloves. The police is outside the home and does not allow anyone to go outside the home.*

St.S.H, a 7-year-old girl, painted their house. The coronavirus has covered the entire exterior of the house. She said that "if I go outside, I will be infected by the coronavirus."

Similarly, S.H.M., a 7-year-old girl, explained in her painting that if she went outside, she would be likely to be infected because she would shake hand with her friends.

We found that children had a high level of fear of infection during home confinement. For example, V.A.K a 10-year-old girl painted a patient trolley and a hospital outside the house. She said that if she went outside, she would be admitted to the hospital.

*I am at home now. If I go outside the home, I will be infected by the corona [virus]. So, at that time I will be admitted to the hospital.*

For L.Z.M., a 6-year-old girl, she painted the sun as coronavirus outside the house when she was at home.

*We all at home to not be infected by the corona [virus]. We play together at home. We cannot go outside because of corona.*



**Figure 1.** (a) R.S.M.'s drawing, (b) St.S.H.'s drawing, (c) S.H.M.'s drawing, (d) V.A.K.'s drawing, (e) L.Z.M.'s drawing, (f) M.I.K.'s drawing, (g) S.S.H.'s drawing, and (h) H.H.M.'s drawing.

M.I.K., a 7-year-old boy explained his painting that his father asked him to not to go outside. He drew two persons outside the house that were affected by the coronavirus.

*I want to go outside the home, but my dad asks me to not go. He said me that if you go outside the house, you get the corona [infection]. Two other persons were affected by the corona outside the house.*

S.S.H., a 8-year-old boy, drew a bold picture of coronavirus. He said that the coronavirus was strong and it would infect all his family members.

*This is a big picture of corona. The color of the corona means it is so strong to infect my family members.*

H.H.M., a 10-year-old girl, painted that she was at home. Other children played outside the house. She wanted to

play with the children, but she was not able to go outside due to fear of infection by the coronavirus.

*Some children went outside house and were infected by the corona [virus]. I am inside home watching the children.*

### Perceptions of safety amongst children during home confinement

The children felt safe at home during the COVID-19 pandemic. They created a red line between the safe and unsafe environments. They had a fear to cross the safety line during the home confinement (Figure 2). S.I.A. a 13-year-old boy, drew two environments in his painting. He was at home in the safe zone, while the coronaviruses were outside the house. The other side of painting was the same environment, but the children were infected by the coronavirus, because they were outside the house.





**Figure 2.** (a) S.I.A.'s drawing, (b) M.B.M.'s drawing, and (c) A.S.R.'s drawing.

For M.B.M., a 10-year-old boy, he created a line between the safe and unsafe zones. He played in the safe zone but admitted to the hospital in unsafe zone.

A.S.R., a 13-year-old girl, also created a red line between school and herself. She could not go to the school because the school was unsafe zone and she would be infected by the coronavirus.

*If I pass this line, the happiness will be disappeared [The Kurdish transcript on building means school]*

### Relationship with siblings and parents

Due to home confinement, the children lost their previous relationships with other children either at school or outside the school (Figure 3). S.I.K., a 12-year-old boy painted that he was at home and the coronaviruses outside the house. He drew a football field outside the house and he was watching it. He said he was depressed being confined at home.

*I was confined at home with my family. I cannot go to play ground outside the home to play with my friends. There is corona everywhere outside the house. I am so depressed now.*

M.Z.M., a 9-year-old girl, created two parts in her painting. She played with her friends in the right side, while she was alone and watching TV in the left side.

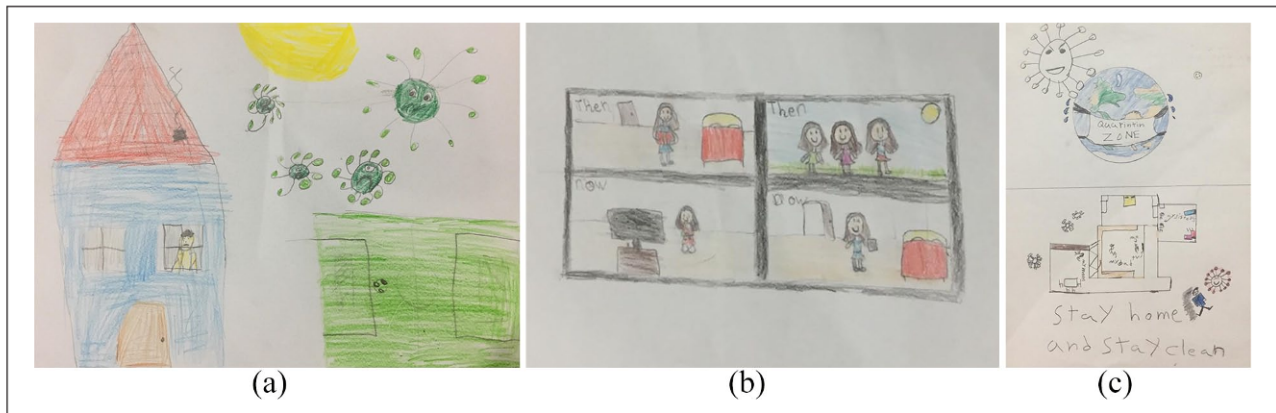
*This picture shows two times of my life, before and after corona. I was playing game alone or with my friends outside the home before corona, but now I play video game after corona.*

Similarly, Mo.Z.M., a 12-year-old boy, drew a picture that depicted his sisters playing video games and his mother in cooking. The outside was covered entirely by the coronavirus. He had to stay at home to be safe.

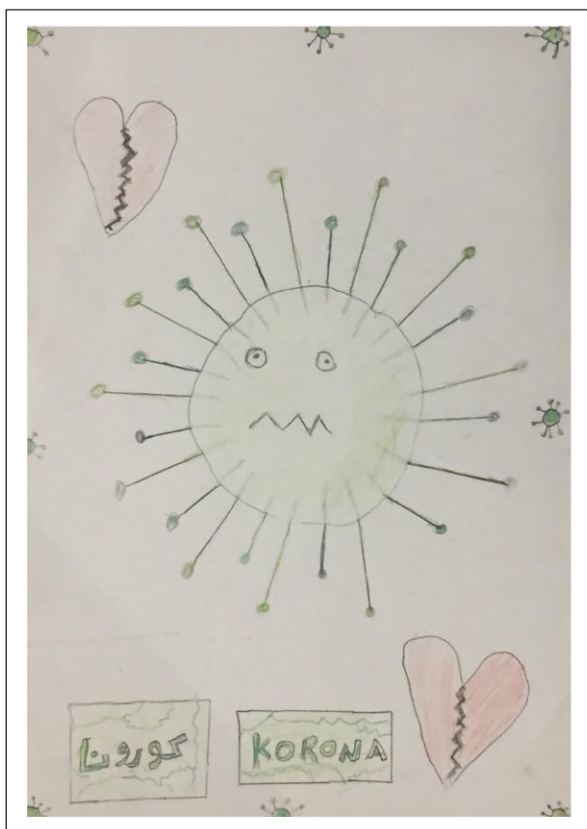
*This is the picture of the earth. The earth is crying because corona covered all the world. The picture below the earth is our house. My sisters are playing video games and, my mum is cooking. You will get the infection if you go outside.*

### Feeling depressed during home confinement

Children felt depressed during the home confinement (Figure 4). Rof.S.M., a 9-year-old girl, explained her



**Figure 3.** (a) S.I.K.'s drawing, (b) M.Z.M.'s drawing, and (c) Mo.Z.M.'s drawing.



**Figure 4.** Rof.S.M.'s drawing.

painting that herself and her family's hearts were broken during the coronavirus pandemic. The girl was so depressed and felt that the coronavirus was everywhere.

*The corona is everywhere. The corona is angry and can infect everyone.*

The children were also feeling depressed during the home confinement because they could not do the normal activities that they had before the outbreak. Although the parents

had more time to be with their children during the pandemic, children needed relationships with other children.

## Discussion

The present study revealed that the children had a great fear of infection during the COVID-19 as reflected in their drawings. Importantly, the children experienced loneliness and feeling depressed during the COVID-19 outbreak. The impact of COVID-19 on children's psychological wellbeing should not be overlooked as they too experienced the impact similarly to adults. A recent study conducted during the COVID-19 reported that 53.8% of the participants found themselves as having a moderate or severe psychological impact; 16.5% with moderate to severe depressive symptoms; and 28.8% as moderate to severe anxiety symptoms; and 8.1% as moderate to severe stress levels (Wang et al., 2020). People are likely to have fears of becoming sick or dying, feelings of helplessness, and stigma during the outbreak (Hall et al., 2008). Between 10% and 30% of the general public had anxiety about the likelihood of infection by the virus (Rubin et al., 2010). Psychiatric morbidities have been reported to associate with younger age and increased self-blame (Sim et al., 2010). A study conducted in this region showed that 81.9% of the participants have a fear of infection by a coronavirus (Abdulah et al., 2020).

It seems that the concern of the children for contracting COVID-19 is associated with stress and anxiety during the COVID-19 outbreak. The distress made during the COVID-19 outbreak was evident in the drawings of the children which showed that there was a high level of distress. Drawings such as the entire house was covered by the coronavirus, the hospital was just outside their house, police appeared outside the home, and a red line between the safe and risky areas revealed that the children had a fear to become infected by the coronavirus outside the home through relationships with their friends or touching other objects.



Observing people on the TVs who wear masks and gloves may make a serious concern to the children. The children can be affected by intense, confusing, and freshening emotions when they witness the events or experience traumatic stress (HelpGuide, 2020). Trauma in children is considered a grave psychosocial, medical, and public policy problem that has adverse effects on the victims and society (De Bellis & Zisk, 2014). Exposure to natural events can lead to distress, posttraumatic stress disorder (PTSD), and posttraumatic stress symptoms (PTSS). The interpersonal, intentional, and chronic trauma in childhood have been shown to contribute to higher rates of PTSD (Widom, 1999), PTSS (Ford et al., 2006), depression (Widom et al., 2007), anxiety (Copeland et al., 2007), antisocial behaviors (Luntz & Widom, 1994).

Diagnostic and Statistical Manual of Mental Disorders-IV-TR makes a diagnosis of PTSD in four criteria. In **Criterion A**, someone experienced stress along with three clusters of categorical symptoms for more than one month after the traumatic event(s) (Type A trauma). In **Criterion B**, there is intrusive re-experiencing of the trauma(s). For **Criterion C**, there is persistent avoidance of stimuli associated with the trauma(s), and in **Criterion D**, there is persistent symptoms of increased physiological arousal (American Psychiatric Association, 2013).

We contend that the children who participated in this study are at the criterion B. The children are at risk for developing other criteria because the home confinement is extending in this region. It is not clear that when the lockdown and the complete curfew will be finished in this region. The parents need to make the creative activities for their children to avoid continuous thinking of children to the coronavirus infection. The children feel helplessness in combating the coronavirus. The sign of coronavirus around the entire house does not only mean that the children feel unsafe situation but also it means that the coronavirus has been in the mind of the children.

The continuing external or internal conditioned stimulus (such as the traumatic trigger [home confinement and social distancing] activates unwanted and distressing recurrent and intrusive memories of the traumatic experience(s) (Pagel, 2006). These symptoms are likely to related to the anhedonia and numbing of responses (Argyropoulos & Nutt, 2013). Therefore, exposure to a traumatic event or series of chronic traumatic events (such as home confinement; social distancing; and a curfew during the COVID-19 outbreak) activates the biological stress response systems of the children (McEwen, 2000; Tsigos & Chrousos, 2002). Accordingly, stress activation results in behavioral and emotional effects similar to individual PTSS symptoms (Charney et al., 1993). It is essential to mention that acute stress improves immune function, while chronic stress suppresses it. These effects can be advantageous for some kinds of immune response

and noxious for others. For the brain, acute stress improves the memory of events that have potential energy to threaten the organism. However, chronic stress makes adaptive plasticity in the brain. In this situation, local neurotransmitters and systemic hormones interact with each other to create structural and functional changes resulting in suppression of continuous neurogenesis (McEwen, 2000). We hypothesize that relation of stress and the immune system response is bidirectional war. The children have will to fight against the acute stress (here coronavirus), however, they lose their energy to combat the continuous stress. Therefore, the children need continuous support at the time of available stress (home confinement and social distancing) owing to their vulnerability, since the stress-induced structural changes in children's brain-like hippocampus have clinical consequences such as depression, PTSD, and individual differences in the aging process (McEwen, 2000). A study reported that SARS survivors have persisted perceived stress 1-year later without signs of decrease (Lee et al., 2007). This may apply to the stress relating to the coronavirus in the children.

Early exposure to stress and trauma can cause physical effects on neurodevelopment and results in changes in the personal long-term response to stress and susceptibility to psychiatric disorders. The children's exposure to stress can impact their ability to regulate, determine, and express their emotions leading to the adverse effects on an individual's core identity and ability to relate to other individuals (Lubit et al., 2003).

During the COVID-19 outbreak, the children spend a considerable amount of their time at home without connecting with other children. World Health Organization (2020b) has recommended assisting the children to find positive ways to express their feelings, such as fear and sadness. It recommends engaging the children in creative activities, such as playing, drawing and paintings. The children require a safe and supportive environment to express and communicate their feeling to relieve these feelings. It is essential to keep children close to their parents and family and avoid separating children and their careers as much as possible. The parents must ensure to maintain regular contact with children during separation. The parents should maintain the familiar routines in daily life as much as possible, or establish new routines, particularly, if children must stay at home. The parents can engage the children in age-appropriate activities; such as learning activities, playing, and socializing with others. The children seek more attachment and depend more on parents in the case of having stress and crisis. They can address the concerns of their children to alleviate their anxiety. The children see the adults' behaviors and emotions as cues to manage their own emotions during the outbreak (World Health Organization, 2020b).



### Implications for policy/practice

Children feel helplessness in combating the coronavirus during home confinement. Therefore, mental health of the children must be acknowledged and managed appropriately.

### Conclusion

This study showed that children have a high level of stress at home during the COVID-19 outbreak. The children experienced loneliness and felt sad and depressed due to home confinement and social distancing. The possibility of infection by coronavirus has occupied their entire mind. Mental health care providers must take the experiences of children who are caught in this global pandemic seriously and ensure that appropriate care is offered to the children and their parents.

### Acknowledgements

The authors would like to express their deep thanks to the parents who accepted to include their children in this study.

### Authors' contributions

The corresponding author approves that all authors of this study have sufficient contribution to design, review, data collection, writing, and analysis.

### Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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