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ORIGINAL RESEARCH

Covid-19 Pandemic may have Unique Effects on Emergency Admissions for Pediatric Psychopathology: A Single-Center Study

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Abstract

Objective: In December 2019, a new coronavirus was identified that caused an epidemic across China and a worldwide pandemic (COVID-19). We aimed to examine the admissions of the children to the emergency service with psychiatric symptoms by comparing retrospectively in terms of sociodemographic variables, diagnoses, psychiatric symptoms, and psychiatric treatments during and before the Covid-19 Pandemic.

Methods: In our study, the first group consisted of the 170 patients who were consulted to child and adolescent psychiatry emergency service department between 11.03.2019 and 30.09.2019 and the second group consisted of the 102 patients who have consulted in the same period previously. The statistical analysis of the study was performed by using SPSS 23. The significant level was accepted as a p-value <0.05.

Results: We found that child psychiatry applications decreased by 42% compared to the previous year. There was no statistically significant difference between the groups in terms of gender and age between the two groups (p> 0.05). The diagnosis of depression and anxiety disorders were found to be the most common diagnosis in both two groups (48.8%;42%, respectively). We observed an increase in diagnoses of post-traumatic stress disorder, eating disorders, and obsessive-compulsive disorders and a decrease in neurodevelopmental disorders among the children who applied to the emergency department during the Covid-19 Pandemic.

Conclusion: Our results contribute the knowledge about the features of emergency administrations of children during the pandemic. Further research is crucial to ensure that child and adolescent psychiatry services are prepared in extraordinary situations such as epidemics.

Keywords: Covid-19 Pandemic, Psychiatric Emergency, Child and Adolescents

INTRODUCTION

In December 2019, a new coronavirus was identified that caused a group of cases of pneumonia in Wuhan, China. The coronavirus spread rapidly, causing an epidemic across China and a worldwide pandemic (COVID-19)(1).

During the pandemic, many daily life routines have changed and governments took preventions for pandemic regarding public health. The daily activities and habits of children and adolescents have also changed significantly due to the home quarantine and the closure of schools during the epidemic (2). The psychological responses of children to stressful events differ from those of adults because they cannot express their emotions appropriately and have not yet developed adequate coping skills (3). The ongoing COVID-19 crisis has negatively affected the physical and mental health of children and adolescents as well as adults (4).

The most common symptoms reported for children and adolescents during the pandemic period are behavioral problems, fears about the infection of loved ones due to illness, distraction, and irritability (2). In a study from China (n = 2330), 22.6% of children reported depressive symptoms and 18.9% of the children reported anxiety symptoms (5). In a second large-scale study (n = 8079) conducted in China with young people aged 12-18 years, the prevalence of depressive and anxiety symptoms was reported to be 43.7 % and 37.4%, respectively (6).

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In a study conducted in New York, there was no significant difference between the child and adolescent patients in emergency psychiatric admissions before and after COVID-19 in terms of age, gender, ethnicity, relationship status, or life status compared to the COVID-19 period. However, in the COVID-19 period, It was observed that psychiatric application history had a statistically lower. In the same study, in terms of diagnostic features and predisposition, it was reported that children and adolescents seen in the period of COVID-19 were less likely to have impulse control disorder and to experience agitation and aggression symptoms compared to the pre-COVID19 period (7).

Professionals have focused less on the unique clinical features of COVID-19 and mental health status in children, due to lower infection and mortality rates in children and adolescents than adults (8). However, it has been shown that children and adolescents exposed to stressful events may experience more stress and trauma due to a lack of development of appropriate emotional responses and coping techniques (9). We think that, in the pandemic duration, mental health applications may differ from the pre-pandemic period because of the problems experienced in routine health services and the preventions. When we examined the literature regarding psychiatric emergency administrations of children and adolescents during the pandemic, we found very few studies in this area, and to the best of our knowledge, none of these studies are from the Turkey sample.

We aimed to examine the admissions of the children to the emergency service with psychiatric symptoms by comparing retrospectively in terms of sociodemographic variables, diagnoses, psychiatric symptoms, and psychiatric treatments during and before the Covid-19 Pandemic. We want to clarify how the quarantine and social isolation processes of children and adolescents affect emergency psychiatric conditions and enhance our understanding regarding health service seeking behaviors of children with psychiatric disorders.

METHODS

In our study, pediatric and adolescent patients who admit to the emergency service with psychiatric complaints during the Covid-19 period and pediatric and adolescent who admit to the emergency service with psychiatric complaints in the same period of the previous year were compared. Necessary legal permissions were obtained from the Ministry of Health and the Uludağ University Medical Ethics Committee (Ethics committee approval date: 04.11.2020, number:2020-19 / 4) before starting the study. The first group consisted of the patients between the ages of 0-18 who consulted for psychiatry evaluation from Uludağ University Faculty of Medicine emergency service between 11.03.2019 and 30.09.2019. The second group consisted of the patients who consulted for psychiatric evaluation from Uludağ University Faculty of Medicine emergency service between 11.03.2020 and 30.09.2020. The research starting date was chosen 11 March when the first Covid-19 case has been diagnosed in Turkey. The first group consisted of 182 patients; the second group consisted of 105 patients. After examining the files of the patients, 12 patients from the first group and from the second group 3 patients were excluded due to the lack of data. The statistical analysis of the study was performed using SPSS 23. Statistically descriptive tests and Chi-Square tests were used. The Kolmogorov-Smirnow test was used for normal distribution analysis. In the analysis of continuous data, student's t-test was used under conditions where normality distribution was provided, and Mann Whitney U test was used when it was not provided. The significant level was accepted as p-value <0.05.

RESULTS

Our study was completed with 272 participants (first group consisted of 170 patients; second group consisted of 102 patients). In our study, when the groups were compared in terms of gender; in the first group the gender of 104 patients were female, 66 patients were male and in the second group 50 patients were female and 52 patients were male. There was no statistically significant difference between the groups in terms of gender (p> 0.05). The mean age of the first group was 14.4±2.53, and the mean age of the second group was 14.2±3.05 and there was not a significant difference between the groups in terms of age (p>0.05). Sociodemographic features of the patients are given in table 1.

Table 1. Sociodemographic data characteristics of patients admitted to the emergency service

		2019 n (%)	2020 n (%)	p
Gender	Girl	104(31.2%)	50(49%)	0.050
	Boy	66(38.8%)	52(51%)	
Cohabitation of parents	Together	125(73.5%)	74(72.5%)	0.860
	Separate	45(26.5%)	28(27.5%)	
Chronic illness of patient	Yes	24(14.1%)	15(14.7%)	0.909
	No	146(85.9%)	87(85.3%)	
Psychiatric illness of patient	Yes	115(67.6%)	32(31.4%)	0.976
	No	55(32.4%)	70(68.6%)	
Usage of psychotropic drugs	Yes	100(58.8%)	61(40.2%)	0.873
	No	70(41.2%)	41(59.8%)	
Family history of psychiatric illness	Yes	49(28.8%)	33(32.3%)	0.471
	No	121(71.2%)	69(67.6%)	
Previous psychiatric applications	Yes	115(67.6%)	71(69.6%)	0.736
	No	55(32.4%)	31(30.4)	
Suicidal attempt	Yes	21(12.4%)	9(8.8%)	0.368
	No	149(87.6%)	93(91.2%)	
Previous psychiatric treatment	Yes	21(12.3%)	9(8.8%)	0.351
	No	149(87.7%)	93(91.2%)	
Medical treatment usage in the emergency service	Yes	41(24.1%)	46(55.1%)	<0.001
	No	129(75.9%)	56(54.9%)	
Total		170(100%)	102(100%)	

When the data of our study were examined, it was seen that the number of child psychiatry applications decreased by 42% during the pandemic, compared to the previous year (2019 n: 170,2020 n: 102). The distribution of applications by months is given in Figure 2. The application dates of the second group are examined, 33.3% of the applications (34 patients) were realized until June, when the pandemic restrictions started to be relaxed. In the same period of last year, 41.2% of the applications to the emergency department (70 patients) were made. In June, when pandemic restrictions were reduced, the rate of admissions to the emergency department was 20.6% (21 patients), while this rate was calculated 10.6% (18 patients) in the same month of last year.

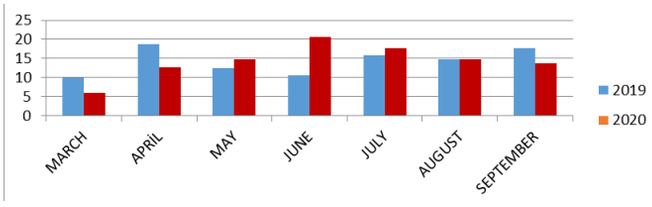


Figure 1. Percentage rates of patients who presented to the emergency department with psychiatric complaints by months compared to the same period last year

67.6% of the patients in the first group (115 patients), 68.6 % of the patients in the second group (70 patients) had any previous psychiatric disease. Depression constituted an important part of these diseases in both groups. The reasons for the patients to come to the emergency service were examined, somatic symptoms were in the first place in both groups (Table 2). 28.8% of the patients in the first group and 32.4% of the patients in the second group had any psychiatric disease in their family. Most of the psychiatric diseases in the family were depression.

Table 2. Reasons and rates of patients admitted to the emergency service

Reasons for applications	2019 n	2019 %	2020 n	2020 %	p
Hurting yourself	10	5.9%	9	8.8%	0.364
Hurting someone else	20	11.8%	10	9.8%	0.611
Tantrum	17	10%	24	23.5%	0.002
Increased energy. insomnia	4	2.4%	4	3.9%	0.480
Visual and/or auditory hallucinations	13	7.6%	5	4.9%	0.385
Somatic symptoms	42	24.7%	27	26.5%	0.741
Abuse/neglect	5	2.9%	2	2%	0.649
Medication side effects	5	2.9%	4	3.9%	0.654
Suicide attempt	23	13.5%	11	10.8%	0.515
Other	31	18.2%	6	5.9%	0.004
Total	170	100%	102	100%	

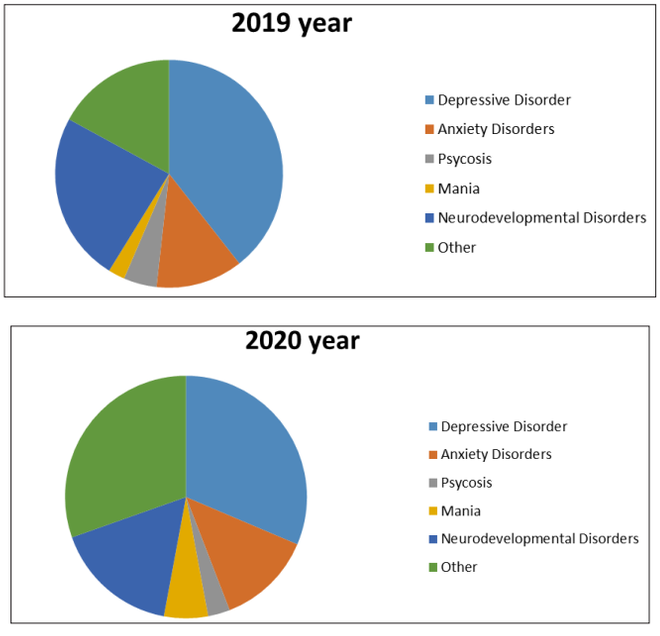
Table 3. Diagnostic distribution of patients who applied to the emergency department

Diagnosis	2019 n	2019 %	2020 n	2020 %	p
Depressive Disorder	67	39.4%	32	31.4%	0.185
Mania	4	2.4%	6	5.9%	0.14
DMDD	5	2.9%	0	0%	0.083
Psychosis	8	4.7%	3	2.9%	0.465
Panic Disorder	5	2.9%	4	3.9%	0.654
GAD	11	6.5%	7	6.9%	0.898
OCD	6	3.5%	10	9.8%	0.032
ADHD	3	1.8%	0	0%	0.173
Eating Disorders	0	0%	4	3.9%	0.009
ODD	0	0%	1	1.0%	0.192
Behavior Disorders	22	12.9%	8	7.8%	0.193
Tic Disorders	2	1.2%	0	0%	0.267
ASD	14	8.2%	6	5.9%	0.482
Substance Abuse	4	2.4%	1	1.0%	0.410
PTSD	0	0%	3	2.9%	0.025
Mental Retardation	2	1.2%	2	2.0%	0.599
Other	17	10%	15	14.7%	0.245
Total	170	100%	102	100%	

*DMDD: Disruptive Mood Dysregulation Disorder; GAD: Generalized Anxiety Disorder; OCD: Obsessive-Compulsive Disorder; ADHD: Attention Deficit/Hyperactivity Disorder; ODD: Oppositional Defiant Disorder; ASD: Autism Spectrum Disorder; PTSD: Posttraumatic Stress Disorder.

When we examined the treatments of the patients it has seen that, 41 (24.1%) of the patients in the first group received medical treatment under emergency conditions, 46 (45.1%) of the patients in the second group received medical treatment. Antipsychotics constituted the most preferred medical treatment in both groups. Suicide attempts were close to each other in both groups. In the first group, jumping from high places as a form of suicide and drinking corrosive substances were not present. Patients in both groups used multiple drugs more than single drug use, and most of these drugs were antipsychotics and antidepressants. It was found that most of the presenting symptoms in both groups were due to the diagnosis of depression and anxiety disorder (Table 3).

Figure 2. Diagnostic distribution of patients admitted to the emergency department



DISCUSSION

Our study examines the admissions made to the child and adolescent psychiatry emergency service before and during the pandemic. Our study stated that the number of psychiatric emergency admissions of children and adolescents during the Covid-19 decreased by 42 % compared to the previous year. We observed an increase in diagnoses of post-traumatic stress disorder, eating disorders, and obsessive-compulsive disorders and a decrease in neurodevelopmental disorders among the children who applied to the emergency department during the Covid-19 Pandemic. The diagnosis of depressive disorder constituted the majority of the diagnosis distributions.

According to our results, there is a critical decrease in the administration of children with psychiatric symptoms to the emergency department during the Covid-19 pandemic consistent with the literature. In a study from Germany, it was reported that there was a 59% decrease in applications to the child and adolescent mental health emergency unit in the 4-week period after March 12 compared to the same period of the previous year, consistent with our results (10). According to a study conducted in the United States, the total number of patient admissions to Psychiatry Emergency Services decreased by almost half in 2020 compared to the previous year, and this was due to the decrease in the number of pediatric patients admitted (11). Another study has shown that the number of patients admitted to the Pediatric Emergency Department during the pandemic period decreased by 60.84% compared to the pre-pandemic period (12). The study, conducted in Portland, Oregon, shows a dramatic decrease in pediatric mental health pediatric emergency department admissions following COVID-19 curfew (13). In a cohort study, it was reported that the total number of applications made to hospital emergency departments decreased during the Covid-19 lockdown (14).The decrease in applications brings to mind many questions that need to be answered and investigated. The curfew decision under the age of 20 taken in our country, fear of families from getting coronavirus disease, increase in financial problems of families during the pandemic process and throwing psychiatric complaints into the background maybe some of these reasons. In other words, people experience changes in their life priorities when faced with emergencies or threats, similar to the current situation. According to the Maslow preparedness hierarchy, people tend to focus first on basic physiological needs rather than psychological needs in a life-threatening crisis (10).

Our research also shows that depression and anxiety symptoms constitute the majority of the reasons for admissions to the emergency department during the pandemic period. It has been reported that symptoms such as anxiety, depression, may occur when children encounter adverse events that affect their environment (15). The daily activities and habits of children and adolescents have changed significantly because of the home quarantine and the closure of schools during the epidemic (16). The quarantine restricts social and physical interactions and disrupts daily routines. Therefore, children cannot participate in games and

activities expected at their developmental level (15). As similar to the period before the pandemic, diagnosis of depressive disorder constituted the majority of the diagnosis distributions in the Pandemic. However consistent with the literature there is not a significant difference in terms of suicidal attempts between the two periods (17). We can discuss this result as a consequence of the preventive effect of living together with family. In addition, factors such as the length of the quarantine period, fear of infection, withdrawal from friends and teachers, and financial loss in the family can cause mental health symptoms in children and adolescents who may experience depression or anxiety disorders (3). A study conducted in China to observe how outbreaks affect children's mental health reported that 18.9 % of participants proved an increase in anxiety symptoms (18). Also by pandemic a new concept COVID-19 related anxiety occurred and professionals need to improve their management skills in this area (19).

It was observed that patients diagnosed with attention deficit and hyperactivity disorder (ADHD) decreased in psychiatric patients who applied to the emergency department during the pandemic period. Complaints of these patients may have decreased due to factors such as decreased social interaction and curfew. In a study conducted in Ireland, parents of children with ADHD reported an improvement in their children's behavior and mood since schools closed (20). In another interpretation, the closure of schools, which is one of the areas where attention deficit disrupts functionality most, may have caused the symptoms of children not to be observed.

Another diagnosis that we have seen to increase during the pandemic period is the diagnosis of obsessive-compulsive disorder (OCD). Behaviors such as washing hands and changing clothes frequently in order not to get coronavirus disease during the pandemic period may have increased in patients with obsessive-compulsive disorder. When the literature in this area was reviewed, OCD symptom profiles, changes in symptom severity, and other related factors were evaluated in adolescents diagnosed with OCD in the Istanbul University Hospital child and adolescent psychiatry clinic during and before the COVID-19 pandemic, and it was found that the severity of OCD symptoms during the pandemic increased in more than half of the research subjects (21).

The increase of patients diagnosed with eating disorders who applied to the emergency department during the pandemic period may indicate that the treatment of patients who can be treated under elective conditions is inadequate due to the effects of the pandemic. For this reason, it has been observed that emergency admissions of diseases, which are diagnosed and treated under elective conditions, have also increased. Eating disorders (ED) were not among the diagnoses when the previous year's diagnoses were evaluated, urgent admissions of adolescents with eating disorders such as Anorexia nervosa after the pandemic was observed. This can be interpreted as being related to both the increase in ED diagnosis and the disruptions in outpatient services.

The current COVID-19 outbreak has created a global context that is likely to increase the risk and symptoms of EDs, reduce the factors that protect against EDs, and increase barriers to care. Disruptions to daily routines and restriction of outdoor activities can increase patients' weight and shaping anxiety and negatively affect eating, exercise, and sleep patterns, which can increase the risk and symptoms of ED. Correspondingly, the pandemic and its accompanying social constraints can deprive individuals of social support and adaptive coping strategies, thereby eliminating protective factors, potentially increasing the risk and symptoms of ED. In addition, health concerns such as increased exposure to ED-specific or anxiety-provoking media, fear of contamination, or following restrictive diets focused on enhancing immunity may increase the risk and symptoms of ED (22).

We observed that the number of patients diagnosed with post-traumatic stress disorder (PTSD) increased during the pandemic period. There were no patients who received this diagnosis in the same period before the pandemic. Quarantine of the patients themselves or their relatives due to the illness and the loss of their relatives due to the illness maybe some of the reasons for the increase in PTSD diagnosis. A study conducted in Ireland to identify the level of traumatic distress associated with COVID-19 and key risk factors associated with experiencing pandemic traumatic distress found that only a little less than 1 in 5 (17.67%) met diagnostic requirements for PTSD. This figure was slightly higher than the rate of traumatic stress disorders reported in Ireland's general adult population in 2019. It has also been found to be associated with post-traumatic stress symptoms, and existing chronic health problems, and a higher perceived vulnerability to COVID-19 (23).

There are many limitations of our study. Firstly, in this study, consultation data containing the information of patients who applied to the emergency department with psychiatric complaints were used. Therefore, diagnoses must be defined with all time and organizational

constraints associated with the emergency service. Psychiatric diagnoses require a longitudinal follow-up, and a brief urgent evaluation can lead to an inaccurate or incomplete diagnosis. In addition, the results of our study can be interpreted within the framework of our findings. Studies with large samples are needed. Besides these limitations, our study is the first study investigating the emergency administrations of child and adolescent psychiatry during the Covid 19 Pandemic in Turkey. Our results contribute the knowledge about the features of emergency administrations of children during the pandemic and may help enhance the understanding of the clinicians. Further research and observation in this issue are crucial for the clinicians to prepare for the admissions of children and adolescents to emergency services with psychiatric symptoms in extraordinary situations such as epidemics.

REFERENCES

[1] Srinivas M, Charles DG, Robert AF. Care for critically ill patients with COVID-19. JAMA.2020; 323 (15):1499-1500.

[2] Cuiyan W, Riyu P, Xiaoyang W, Yilin T, Linkang X, Cyrus SH, Roger CH. Immediate psychological responses and associated factors during the initial stage of the 2019 corona virus disease (COVID-19) epidemic among the general population in China. International Journal of Environmental Research and Public Health 2020; 17(5):1729.

[3] Samantha KB, Rebecca KW, Louise ES, Lise W, Simon W, Neil G, Gideon JR. The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet 2020;395(10227):912-920.

[4] Anthony SF, H Cliford L, Robert RR. Covid-19-navigating the uncharted. New England Journal of Medicine 2020; 382(13):1268-1269.

[5] Antoinette ML, Josephine GWSW, Grainne MM, Vinci C, Charlton C, Pak CS, Chung-Ming C, Poon-Chuen W, Kenneth WTT, Siew EC. Stress and psychological distress among SARS survivors 1 year after the outbreak. Canadian Journal of Psychiatry 2007; 52(4):233–240.

[6] Ivan WCM, Chung MC, Pey CP, Michael GCY, Veronica LC. Long-term psychiatric morbidities among SARS survivors. General Hospital Psychiatry 2009; 31(4):318–26.

[7] Stephen JF , Lidia K , Sean L , Sivan S, Rhea D, Abbas GY, Ivan M, Mohammad T, John R, Abraham B. Psychiatric emergencies during the height of the COVID-19 pandemic in the suburban New York City area. Journal of Psychiatric Research 2021;136:552-559.

[8] Hai-Xin B, Wen L, Yuan Y, Qinge Z, Teris C, Xinjuan W, Yu-Tao X. Posttraumatic stress symptoms and attitude toward crisis mental health services among clinically stable patients with COVID-19 in China. Psychological Medicine 2020;1 – 2.

[9] Gabriele S, Delfina J, Marco DN, Luigi J, Simonetta F, Daniela C. Mental health during and after the COVİD-19 emergency in Italy. Psychiatry Clinical Neurosciences 2020; 74(6):372.

[10] Morsi A. Drastic decrease in emergency admissions in a German Child and Adolescent Psychiatry Clinic: A COVID-19-pandemic phenomenon or an actual decrease in the number of emergency patients. Turkish Journal Child and Adolescent Mental Health 2020; 27(2):124-125.

[11] Shobassy A, Nordsletten AE, Ali A, Bozada KA, Malas NM, Hong V. Effects of the COVID-19 pandemic in a psychiatric emergency service: Utilization patterns and patient perceptions. Am J Emerg Med. 2021; S0735-6757(21)00269-2.

[12] Rebecca AL, Erika S, Mark XC, Marc A. Changes in pediatric emergency department visits for mental health during the COVID-19 pediatric: A cross-sectional study. Clin Child Psychol Pscychiatry 2021;26(1):33-38.

[13] David CS, Robert C, Kyle J, Rebecca M. Where Have All the Emergency Pediatric Mental Health Patients Gone During COVID19? Acta Pediatr. 2020;10.1111/apa.15537

[14] Dennis O, Ben HW, Mehrak V, Paul LP, Tauseef M, Liana R, Elizabeth B, Haseena H, Alexandra L, Jovanka T, Manish R, Sulagna C, Sara C, Omer SM, Rachel E, Farah R, Ereni S, Fiona M, Natalie K, Dejan S, Peter N, Chiara D, Hassan M, Evran T, Fatima Y, Ben M, Sabine L. Pandemic-related emergency psychiatric presentations for self-harm of children and adolescents in 10 countries (PREP-kids): a retrospective international cohort study. Eur Child Adolesc Psychiatry.2021;1-13.

[15] Laura H, Wayne LG, Susan R, Stephen P, Sandro G, Rima S. SARS control and psychological effects of quarantine. Emerging Infectious Diseases Journal.2004; 10(7):1206–12.

[16] Wen YJ, Lin NW, Juan L, Shuan FF, Fu YJ, Massimo PM, Somekh E. Behavioral and emotional disorders in children during the COVID-19 epidemic. The Journal of Pediatrics 2020; 221:264–266.

[17] Ryan MH, Katrina R, Sherin K, Johanna S, Kirti S, Laurel W. Suicide ideation and attempts in a pediatric emergency department before and during COVID-19. Pediatrics 2021;147(3):e202.002.9280.

[18] Xinyan X, Qi X, Yu Z, Kaiheng Z, Qi L, Jiajia Z, Ranran S. Mental health status among children in home confinement during the coronavirus disease 2019 outbreak in Hubei Province, China. JAMA Pediatr. 2020;174(9):898-900.

[19] Diane PL, Scott AS. A three-step, single session therapy intervention for COVID-related anxiety in a pediatric emergency department. Cureus 2020;12(12):e12371.

[20] Joyce L. Mental health effects of school closures during COVID-19. The Lancet Child & Adolescent Health 2020; 4(6):421.

[21] Yaşar T, Ali K, İlyas K, Tuba BK , Gaye T, Büşra ND, Yavuz M, Murat Ç. Exacerbation of obsessive-compulsive disorder symptoms in children and adolescents during COVID-19 pandemic. Psychiatry Research 2020; 293:113363.

[22] Rachel FR , Caterina L , Silvia C , Debra LF, Mika O, Matthew FT, Jake L, Philippe C, Sebastien G . The impact of the COVID-19 pandemic on eating disorder risk and symptoms. International Journal of Eating Disorders 2020; 53(7):1166-1170.

[23] Thanos K, Mark S, Jamie M, Orla M, Menachem BE, Richard PB, Frédérique V, Philip H. Posttraumatic stress symptoms and associated comorbidity during the COVID-19 pandemic in Ireland: A population-based study. Journal of Traumatic Stress 2020; 33(4):365-370.