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ORIGINAL ARTICLE

Symptoms and quality of life in long COVID-19: effects on children and parents

Síntomas y calidad de vida en el COVID-19 prolongado: efectos en los niños y los padres

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What is known about the subject of this study?

Children recovering from COVID-19 may experience prolonged symptoms, including fatigue and cognitive dysfunctions, which negatively impact their quality of life and academic performance, also affecting the well-being of their parents.

What does this study contribute to what is already known?

This study provides comprehensive evidence that long COVID symptoms in children, particularly fatigue and cognitive dysfunctions, are significantly associated with decreased quality of life and academic performance. Additionally, it highlights the emotional and functional burden on parents, emphasizing the need for long-term psychosocial support. The results improve the current literature by employing validated quality of life instruments for both children and their families.

Abstract

The COVID-19 pandemic has negatively affected physical and mental well-being, reducing the quality of life of both pediatric patients and their families. **Objective:** To evaluate acute and post-infection COVID-19 symptoms in children and assess their impact on the quality of life of patients and their parents. Patients and Method: Cross-sectional study. 231 children aged 8–18 years diagnosed with long COVID-19 and their parents were included. Long COVID-19 was defined as the persistence of symptoms 3 months after the acute episode. A control group of 176 healthy children, matched for age and sex, and their parents, was also included. Demographic data and symptoms during infection and three months post-infection were recorded. Children completed the Pediatric Quality of Life Inventory (PedsQL™ 4.0, Turkish version), while parents completed the PedsQL™ Family Impact Module. Results: Fatigue (49.3%) was the most common symptom during the acute phase, followed by sore throat (39.8%), headache (39.3%), cough (27.7%), and joint pain (26.4%). 76.2% of children

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reported persistent symptoms, the most common being fatigue (15.9%), cough (15.3%), cognitive dysfunction (15.3%), headache (10.2%), and anosmia/ageusia (9%). According to the PedsQL™ questionnaires, children with COVID-19 and their parents showed significantly lower quality of life scores compared to controls ($p < 0.001$). Conclusion: COVID-19 infection negatively impacts the quality of life of both pediatric patients and their families, especially due to persistent symptoms such as attention deficit and poor academic performance. Comprehensive physical and psychological follow-up during and after the pandemic is recommended.

Introduction

Coronavirus Disease-19 (COVID-19), which is caused by Severe Acute Respiratory Syndrome-Coronavirus-2 (SARS-CoV-2), was first detected in China in December 2019 and caused a pandemic in March 2020[1,2]. Clinically, it is known that COVID-19 has a milder course in healthy children. The most common symptoms in children with COVID-19 are fever, cough, respiratory distress, and, more rarely, sore throat, loss of appetite, nausea, weakness, muscle pain, and diarrhea[3].

The World Health Organization (WHO) defined long COVID in adults as a condition manifesting in individuals with a history of probable or confirmed SARS-CoV-2 infection, characterized by persistent or new symptoms occurring 3 months after onset, lasting for a minimum of 2 months, and not attributable to another diagnosis. The reported prevalence of long COVID in children and adolescents varies significantly, ranging from 1.6% to 70% across different studies[4-7]. The studies found that 76.2% of children with COVID-19 had at least one continuing symptom, most commonly fatigue, cognitive impairment, and cough[4,5]. In another study, common long COVID symptoms in children were reported to include fatigue, shortness of breath, exercise intolerance, weakness, headache, insomnia, sensory disorders, and cognitive deficits[8,9].

However, the COVID-19 pandemic has seriously affected children's mental health, well-being, and cognitive functions. The WHO defines health as the overall condition of an individual, encompassing not only the absence of a disease or disorder but also the presence of mental, social, and physical well-being[10]. The COVID-19 Impact on Quality of Life Scale has been developed for adults; however, there is currently no quality of life scale to assess the effects of COVID-19 in the pediatric population[11,12]. The Pediatric Quality of Life Inventory™ (PedsQL) is a valid and reliable questionnaire that comprehensively assesses children's and parents' perceptions of health-related quality of life and includes modules specific to age groups and health conditions. This scale consists of four main subscales: physical, emotional, social, and school functioning[13-16].

The COVID-19 pandemic and the associated social isolation measures implemented by countries have had adverse effects on children and families, with studies indicating a negative impact on their mental health[17,18]. Challenges such as restrictions on outdoor activities, limited social interactions with friends due to travel restrictions, closures of schools and kindergartens, transitioning to online education, and the closure of recreational facilities have disrupted the daily lives of children[19]. Research from China revealed that around 20% of children and adolescents experienced irritability, fear, depression, and anxiety[20]. A study conducted in the US showed that both children's and families' quality of life has declined due to long COVID, highlighting the impact of the pandemic[21].

In this study, the objective was to evaluate how the quality of life of patients and their parents was affected by prolonged symptoms in the COVID-19 pandemic.

Patients and Method

This cross-sectional study included Turkish children aged 8 to 18 years who presented to the Pediatric Pandemic Outpatient Clinic of the Health Sciences University Faculty between February 2022 and February 2023. February 2023 who presented to the pediatric pandemic outpatient clinic with a confirmed positive COVID-19 PCR test result recorded in the Turkish Ministry of Health's system (HSYS). The control group was randomly selected from children attending the hospital for routine check-ups, who had no chronic illnesses, were of similar age and sex, and had no history of COVID-19. Patients with chronic illnesses or those diagnosed with MIS-C, those hospitalized due to COVID-19, and patients with incomplete data were excluded from the study. Children and their parents signed informed consent forms. The study was approved by the Ethics Committee of Health Sciences University (Decision

no: 2022/02-07). The age, sex, and educational level of the parents and children, along with COVID-19 symptoms at the time of diagnosis, those that persisted after three months of COVID-19, and the results of quality-of-life questionnaires were recorded. Data were collected through an online survey using Google Forms. Questionnaires were administered to all patients when they were diagnosed and 3 months after diagnosis.

Patients and controls were divided into two age groups based on the PedsQL™ forms: 8-12 and 13-18 years. The PedsQL™ forms had been translated into Turkish and validated. After the third month following COVID-19, children were asked 23 questions under 4 main domains of the PedsQL™: physical health, emotional functioning, social functioning, and school functioning[14,15]. Parents of the patient group were also asked to complete 36 questions categorized under the domains of physical functioning, emotional functioning, social functioning, cognitive functioning, communication, anxiety, daily activities, and family relationships in the 'Pediatric Quality of Life (PedsQL™): The Family Impact Module' concurrently with their children[16]. Responses to the Pediatric Quality of Life Scale and the Family Impact Scale were coded as follows: 0 = never, 1 = rarely, 2 = sometimes, 3 = frequently, and 4 = always. After all items were completed, scoring was performed by assigning 100 points for a response of 0, 75 points for 1, 50 points for 2, 25 points for 3, and 0 points for 4. The scores were summed within each question group, and the mean score for each group was calculated. Higher scores indicate better quality of life[14-16].

Statistical Analysis

All statistical analyses were performed using IBM SPSS Statistics software (version 24, IBM Corp., Armonk, NY, USA). Descriptive data were expressed as median [interquartile range (IQR)] or mean (minimum-maximum) for continuous variables and as frequencies (percentages) for categorical variables. The normality of data distribution was assessed using the Kolmogorov–Smirnov and Shapiro–Wilk tests. Non-parametric tests were applied for data that did not meet the assumption of normality. The Mann–Whitney U test was used to compare continuous variables between two independent groups, and the Kruskal–Wallis test was used for comparisons involving more than two groups. Categorical variables were analyzed using the Pearson chi-square or Fisher's exact test, as appropriate. Correlations between quantitative variables were examined using Spearman's rank correlation coefficient. A two-tailed p-value < 0.05 was considered statistically significant.

Results

The study included 407 children: 231 COVID-19 positive children and their families, and 176 control healthy children of similar age and sex and their families. The mean age of the patients was 12.6 ± 2.8 years, and 52% were female. Among the patients included in the study, 48% were aged 8-12 years and 52% were aged 13-18 years (Table 1).

Patients were evaluated for COVID-19 symptoms and for the persistence of symptoms three months after infection. The study included all reported symptoms, and most patients had multiple coexisting symptoms. At the time of COVID-19 diagnosis, 93.6% of patients had active symptoms. Fatigue (49.7%) was the most prevalent symptom, followed by sore throat (39.8%), headache (39.4%), and cough (27.7%). Among children who had COVID-19, 76.2% reported persistent symptoms after three months.

After analysis of the long COVID symptoms, it was observed that fatigue, the most common symptom during the active phase of the disease, continued in 19.7% of patients. Fatigue was the major complaint in the long COVID symptoms, followed by cough (14.6%) and cognitive dysfunctions (13.4%) (Table 2). However, compared to acute COVID, long COVID symptoms were the only statistically significant decrease in academic performance ($p = 0.01$). The Spearman's rho correlation coefficient ($\rho = 0.17$) indicates a statistically significant positive correlation (Table 2).

A total of 47 children reported two or more persistent symptoms following COVID-19, with nasal congestion and loss of taste and smell being the most frequently reported. Twenty-seven children experienced cognitive dysfunction as a long COVID symptom, of whom only six had reported similar difficulties

Table 1. Demographic distribution of the COVID-19 children and the control group

	COVID-19 Mean ± SD	Control Mean ± SD
Subjects Age (years)	12.6 ± 2.8	12.1 ± 2.9
Mother Age (years)	38.6 ± 5.7	40.9 ± 8.2
Father Age (years)	43.2 ± 6.2	45.5 ± 9.6
Age; N (%)	231 (100%)	176 (100%)
8-12 years	111 (48.1%)	96 (54.5%)
13-18 years	120 (51.9%)	80 (45.5%)
Sex		
Female	121 (52.4%)	93 (52.8%)
Male	110 (47.6%)	83 (47.2%)

during the acute phase of the disease. Similarly, eleven children reported a decrease in academic performance after COVID-19, whereas only three had experienced such difficulties during the active illness (Table 2).

This study showed a statistically significant association between a decrease in quality-of-life scores and a decline in academic performance ($p < 0.05$). Regarding persistent post-COVID symptoms, anosmia, cognitive impairment, and chest pain were found to persist long-term with no statistically significant decrease ($p = 0.86$, $p = 1.00$, and $p = 1.00$, respectively).

The analysis of symptom distribution by age groups indicated that fatigue, headache, sore throat, and cough had no statistically significant differences between the two groups (8-12 years and 13-18 years) ($p > 0.05$). However, abdominal pain was significantly more common among children aged 8–12 years ($p < 0.05$). A decrease in school performance was also more frequently reported in this age group compared to adolescents ($p < 0.05$). In contrast, fever was observed more frequently in the 13–18 age group (20.4%), being this difference statistically significant ($p < 0.05$).

In the evaluation of quality of life among children with COVID-19, the total score of the PedsQL 4.0 scale and all its subgroups were lower than those of the control group. Specifically, the COVID-19 group had lower scores in physical functioning, school functioning, and overall total scores. Although emotional and social functioning scores were also lower in the COVID-19 group, these differences were not statistically significant (Table 3).

The PedsQL Family Impact Module revealed substantially lower quality-of-life scores among parents in the COVID-19 group. The most significant differences were observed in emotional functioning, family relationships, anxiety, communication, and daily activities (Table 4).

An analysis revealed a significant negative correlation between the number of long COVID symptoms and PedsQL total scores ($r = -0.42$, $p = 0.004$), suggesting that a higher symptom burden correlates with a lower quality of life. Fatigue demonstrated a moderate negative correlation with physical functioning ($r = -0.39$, $p = 0.007$) and school functioning ($r = -0.36$, $p = 0.011$). Additionally, attention difficulties were significantly correlated with lower school scores ($r = -0.33$, $p = 0.015$).

Table 2. Clinical symptoms during and after COVID-19

Symptoms	During COVID-19 n (%)	Long COVID n (%)	p*
Fatigue	115 (49.7%)	28 (15.9 %)	0.71
Sore Throat	92 (39.8 %)	5 (2.8 %)	0.35
Headache	91 (39.4 %)	18 (10.2 %)	0.59
Cough	64 (27.7 %)	27 (15.3 %)	0.49
Joint Pain	61 (26.4 %)	10 (5.7 %)	0.79
Runny Nose	55 (23.8 %)	7 (3.9 %)	0.2
Nasal Congestion	45 (19.5 %)	13 (7.4 %)	0.77
Abdominal Pain	40 (17.3 %)	0	-
Decrease in School Performance	38 (16.5 %)	11 (6.3 %)	0.01
Fever	36 (15.6 %)	5 (2.8 %)	0.78
Nausea/Vomiting	30 (12.9 %)	0	-
Cognitive dysfunctions	28 (12.1 %)	27 (15.3 %)	0.28
Muscle Pain	28 (12.1 %)	7 (3.9 %)	0.32
Loss of Taste and Smell	18 (7.8 %)	16 (9.1 %)	0.47
Diarrhea	16 (6.9 %)	1 (0.5 %)	0.79
Asymptomatic	15 (6.5 %)	55 (23.8 %)	0.0001
Chest Pain	9 (3.9 %)	9 (3.9 %)	0.26

*Spearman's rho analysis $p < 0.05$.

Table 3. Evaluation of Quality of Life of Children (PedsQL)

Score	8-12 años			13-18 años		
	COVID-19 Median (Min.-Max.)	Control Median (Min.-Max.)	p*	COVID-19 Median (Min.-Max.)	Control Median (Min.-Max.)	p*
Physical Functioning	46.8 (12.5-68.75)	75 (40.62-93.75)	< 0.001	46.8 (12.5-71.87)	68.75 (28.13-93.75)	< 0.001
Emotional Functioning	35 (5-62.5)	51.25 (5-80)	< 0.001	37.5 (0-62.5)	55 (15-87.5)	< 0.001
Social Functioning	40 (0-75)	57.5 (40-85)	< 0.001	43 (0-75)	55 (31-90)	< 0.001
School Functioning	40 (0-75)	65 (30-90)	< 0.001	40 (0-75)	70 (30-90)	< 0.001
Total Score	42.4 (5.43-60.8)	68.4 (35.8-83.7)	< 0.001	42.39 (14.1-59.7)	63 (32.61-81.52)	< 0.001

*Mann-Whitney U test ($p < 0.05$).

Table 4. Evaluation of Pediatric quality of life in parents: The family impact module in parents of children with COVID-19

Score	8-12 years			13-18 years		
	COVID-19 Children's Parents Median (Min.-Max.)	Control Children's Parents Median (Min.-Max.)	p*	COVID-19 Children's Parents Median (Min.-Max.)	Control Children's Parents Median (Min.-Max.)	p*
Physical Condition	58.3 (0.0-75.0)	62.5 (0.0-75.0)	0.087	58.3 (0.0-75.0)	64.6 (0.0-75.0)	< 0.001
Emotional Condition	55.0 (0.0-75.0)	60 (0.0-95.0)	0.124	60.0 (0.0-75.0)	65.0 (15.0-95.0)	0.027
Social Condition	50 (0.0-75.0)	56.2 (0.0-87.5)	0.026	62.5 (0.0-75.0)	62.5 (0.0-87.5)	0.139
Cognitive Condition	60.0 (0.0-75.0)	50 (0.0-75.0)	0.027	55.0 (0.0-75.0)	50 (0.0-75.0)	0.008
Communication	58.3 (0.0-75.0)	25.0 (0.0-75.0)	< 0.001	58.3 (0.0-75.0)	25.0 (0.0-66.7)	< 0.001
Anxiety	50 (0.0-75.0)	42.5 (0.0-75.0)	0.122	60.0 (0.0-75.0)	32.5 (0.0-75.0)	< 0.001
Daily activities	66.7 (0.0-75.0)	50 (0.0-75.0)	< 0.001	50.0 (0.0-75.0)	54.2 (0.0-75.0)	0.961
Family Relations	70.0 (0.0-75.0)	50 (0.0-75.0)	< 0.001	65.0 (0.0-75.0)	30 (0.0-75.0)	< 0.001
Total Score	57.6 (0.0-68.1)	52.8 (6.1-67.6)	< 0.001	58.2 (0.0-69.6)	47.5 (27.8-66.2)	< 0.001

*Mann-Whitney U test (p<0.05)

Discussion

This study evaluated the clinical symptoms experienced by children during and after COVID-19 and their impact on the quality of life for both patients and their parents. During the acute phase of COVID-19 infection, 93.6% of children were symptomatic, with fatigue (49.7%), sore throat (39.8%), and headache (39.4%) being the most common reported symptoms. These results are similar to the pediatric COVID-19 symptoms reported in the literature[3,8]. The Turkish Ministry of Health implemented a policy of testing and isolating individuals who had been in contact with COVID-positive cases before the disease became widespread. As a result, 6% of asymptomatic patients were children who had been exposed to COVID-positive individuals.

The long-term effects of COVID-19, particularly in pediatric populations, remain under investigation. Fatigue (47%), dyspnea (43%), headache (35%), cognitive dysfunctions (26%), myalgia (25%), abdominal pain (25%), anosmia (18%), fever (18%), cough (17%), and diarrhea (15%) are the most frequently reported symptom in children with long COVID. This meta-analysis revealed that anosmia, headache, and cognitive symptoms were the most persistent clinical symptoms in patients with SARS-CoV-2[9].

Children typically show less severe physical symptoms compared to adults; however, the long-term psychosocial consequences could have greater significance. The study indicated that the observed effects included cognitive dysfunction, psychological distress, and decreased social functioning; however, the results did not provide statistical evidence of differences between the two groups regarding these symptoms[18,19]. Our study highlights cognitive dysfunction, attention deficit, and declines in academic performance reported by children following COVID-19 infection. These results are consistent with meta-analyses that have documented persistent neurocognitive symptoms, including concentration difficulties and headaches, in the following months after COVID-19[9]. The effect size is limited and of questionable clinical relevance; however, patients who experienced a decrease in school performance during acute COVID-19 are more likely to continue experiencing academic difficulties after the infection.

After the COVID-19 pandemic, the PedsQL evaluation indicated a significant decrease in all parameters regarding physical, emotional, social, and school functioning. Similarly, parents reported significantly lower quality-of-life scores in the PedsQL Family Impact Module, particularly in emotional functioning, communication, cognitive functioning, family relationships, and daily activities. These results are consistent with the findings from recent research highlighting the extensive impact of pediatric COVID-19 on families[16,21].

Younger children (8-12 years) were more likely to report academic difficulties, which may have been influenced by online education, according to the age-group analysis. In contrast, adolescents (13-18 years) showed higher anxiety levels, suggesting that they were

at higher risk for psychological distress during this developmental period[17,18].

Adolescents showed more pronounced decreases in school functioning and overall scores, most likely due to increased social isolation and excessive screen time during the pandemic[22]. Additionally, no significant sex differences were observed in quality-of-life outcomes. These findings support existing literature linking sedentary behavior and digital overexposure to poorer psychosocial health.

The emotional, cognitive, and daily functioning scores of parents of COVID-19-positive children were also substantially affected, resulting in a decrease in their overall well-being. The burden on caregivers during the pandemic has been a focal point of previous research[23-25].

The strength of this study is that it is one of the few investigations to examine the effects of COVID-19 on the quality of life of children and their families during the pandemic period. It is essential to acknowledge the limitations of the study, including its single-center design, reliance on participant-reported measures, and lack of longitudinal follow-up.

Conclusion

The most significant long COVID symptoms are the decline in children's academic performance and attention deficits. In addition, reduced quality of life in both children and their families is an important consequence of long COVID. These findings highlight the need for long-term, multidisciplinary approaches, including educational and psychological support, for pediatric patients and their families.

Ethical Responsibilities

Human Beings and animals protection: Disclosure the authors state that the procedures were followed according to the Declaration of Helsinki and the World Medical Association regarding human experimentation developed for the medical community.

Data confidentiality: The authors state that they have followed the protocols of their Center and Local regulations on the publication of patient data.

Rights to privacy and informed consent: The authors have obtained the informed consent of the patients and/or subjects referred to in the article. This document is in the possession of the correspondence author.

Conflicts of Interest

Authors declare no conflict of interest regarding the present study.

Financial Disclosure

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References

1. Liu WY, Chuang YC, Liu TJ, et al. Insights from the comparisons of SARS-CoV and COVID-19 outbreaks: The evidence-based experience of epidemic prevention in China. Medicine (Baltimore). 2021 Feb 12;100(6):e24650.
2. Holshue ML, DeBolt C, Lindquist S, et al. First case of 2019 novel coronavirus in the United States. New England journal of medicine, 2020;382(10):929-36.
3. Stokes EK, Zambrano LD, Anderson KN, et al. Coronavirus Disease 2019 Case Surveillance - United States, January 22-May 30, 2020. MMWR Morb Mortal Wkly Rep. 2020;69(24):759-65.
4. Lopez-Leon S, Wegman-Ostrosky T, Ayuzo del Valle NC, et al. Long-COVID in children and adolescents: a systematic review and meta-analyses. Sci Rep. 2022;12:9950.
5. Stephenson T, Allin B, Nugawela MD, et al. Long COVID (long-COVID-19 condition) in children: a modified Delphi process. Arch Dis Child. 2022;107:674-80.
6. Pellegrino R, Chiappini E, Licari A, et al. Prevalence and clinical presentation of long COVID in children: a systematic review. Eur J Pediatr. 2022;181:3995-4009.
7. Funk AL, Kuppermann N, Florin TA, et al; Pediatric Emergency Research Network-COVID-19 Study Team. Post-COVID-19 conditions among children 90 days after SARS-CoV-2 infection. JAMA Netw Open. 2022;5(7).
8. Erdoğan F. Long COVID-19 and Pediatric Patients. Türkiye Klinikleri. 2022;1:63-68.
9. Behnood SA, Shafran R, Bennett SD, et al. Persistent symptoms following SARS-CoV-2 infection amongst children and young people: a meta-analysis of controlled and uncontrolled studies. J Infect. 2022;84:158-70.
10. The WHOQOL Group. The World Health Organization Quality of Life Assessment (WHOQOL): development and general psychometric properties. Soc Sci Med. 1998;46(12):1569-85.
11. Repisti S, Jovanovic N, Kuzman M, et al. How to measure the impact of the COVID-19 pandemic on quality of life: COV19-QoL - the development, reliability and validity of a new scale. Glob Psychiatry. 2020;0(0).
12. Okten C, Yazici HG. Validity and Reliability of the Turkish Version of the COVID-19-Impact on Quality of Life Scale. Galician Med J. 2022;29(2).
13. Varni JW, Seid M, Kurtin PS. PedsQL 4.0: reliability and validity of the Pediatric Quality of Life Inventory version 4.0 generic core scales in healthy and patient populations. Med Care. 2001;39(8):800-12.
14. Çakın-Memik N, Ağaoğlu B, Coşkun A, et al. The validity and reliability of the Pediatric Quality of Life Inventory in 8-12 years 12-year-old Turkish children. Turk J Child Adolesc Ment Health. 2008;15(2):87-98.
15. Çakın-Memik N, Ağaoğlu B, Coşkun A, et al. The validity and reliability of the Pediatric Quality of Life Inventory in 13-18-year-old Turkish children. Turk J Child Adolesc Ment Health. 2007;18(4):353-63.
16. Gürkan KP, Bahar Z, Çapık C, Aydoğdu, N, et al. Psychometric properties of the Turkish version of the pediatric quality of life: The family impact module in parents of children with type 1 diabetes. Children's Health Care. 2019;49(1):87-99.
17. Golberstein E, Wen H, Miller BF. Coronavirus Disease 2019 (COVID-19) and Mental Health for Children and Adolescents. JAMA Pediatr. 2020;174(9):819-20.
18. Meade J. Mental Health Effects of the COVID-19 Pandemic on Children and Adolescents: A Review of the Current Research. Pediatr Clin North Am. 2021;68(5):945-59.
19. Fegert JM, Vitiello B, Plener PL, Clemens V. Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review. Child Adolesc Psychiatry Ment Health. 2020;14:1-11.
20. Cui Y, Li Y, Zheng Y; Chinese Society of Child & Adolescent Psychiatry. Mental health services for children in China during the COVID-19 pandemic: results of an expert-based national survey. Eur Child Adolesc Psychiatry. 2020;29:743-8.
21. Chen EY, Morrow AK, Malone LA. Exploring the Influence of Preexisting Conditions and Infection Factors on Pediatric Long COVID Symptoms and Quality of Life. Am J Phys Med Rehabil. 2024;103(7):567-74.
22. McGuine TA, Biese KM, Petrovska L, et al. Mental Health, Physical Activity, and Quality of Life of US Adolescent Athletes During COVID-19. J Athl Train. 2021;56(1):11-9.
23. Pecor KW, Barbayannis G, Yang M, et al. Quality of life and well-being of parents raising children with autism spectrum disorder during the COVID-19 pandemic. J Autism Dev Disord. 2021;51:4095-105.
24. Spinelli M, Lionetti F, Pastore M, Fasolo M. Parents and children facing the COVID-19 outbreak in Italy. Front Psychol. 2020;11:1713.
25. Gassman-Pines A, Ananat EO, Fitz-Henley J. COVID-19 and Parent-Child Psychological Well-being. Pediatrics. 2020;146(4).