



Parental Anxiety and Children's Mediterranean Diet Quality Index during the COVID-19 Pandemic

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ABSTRACT

COVID-19 has caused various psychosocial disorders, especially stress and anxiety disorders, in individuals. Anxiety disorder experienced by parents affects children's eating behaviors. The Mediterranean diet has also been reported to be protective against COVID-19. Our study aimed to investigate the relationship between parents' anxiety levels and Mediterranean Diet Quality Index (KIDMED) scores, which measure their children's compliance with the Mediterranean diet. The data were collected between April 10 and June 20, 2020. The questionnaire form was created using the KIDMED, Beck Anxiety Inventory (BAI), and Coronavirus Anxiety Scale (CAS). Participants were randomly selected and data were collected by snowball method. The criteria for inclusion in the study were a) being literate b) volunteering to participate in the study, c) having at least one child between the ages of 3-18, and d) not having any chronic disease. In total, 589 parents were reached. Conditions such as parental gender, relationship status, number of children, and dietary supplement use before COVID-19 were only significantly associated with BAI ($p < 0.05$). Pearson correlation coefficient showed that the CAS and BAI score was weakly associated with the KIDMED score (0.39*; 0.01 and 0.14*; 0.01). As a result, compliance with the Mediterranean diet protects individuals against diseases. It is very important for children and adolescents, who are the individuals of the future, to have a healthy diet. To protect public health in future pandemics, healthy eating patterns such as the Mediterranean diet should be expanded.

Keywords: Coronavirus-19, KIDMED, Mediterranean Diet, Parental Anxiety

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Introduction

The coronavirus disease 2019 (COVID-19) is a pandemic that started in China and caused approximately 7 million deaths worldwide (World Health Organization, 2023). Traumatic events like pandemics can remind people of the reality of death and harm their mental health. In addition, the uncertainty of how long the pandemic will last and unknown treatment methods, constant exposure to an intense flow of information about the pandemic and its effects, disruptions in education and business life, economic depression, and quarantine practices negatively affect the mental health of individuals (Özdin and Bayrak Özdin, 2020; Mendes et al., 2022). Anxiety and stress that occur with the disease, especially in parents, negatively affect family life (Philippe et al., 2021). When the increasing parental anxiety levels are added to this, the unhealthy eating behaviors of children and adolescents will inevitably increase (Emerson et al., 2017). Many studies in the literature prove that parental anxiety affects the nutrition of children and adolescents in various ways (Emerson et al., 2020; Coulthard et al., 2021; Mendes et al., 2022).

Childhood obesity has become one of the most serious public health problems of the 21st century (Nittari et al.,

2019). The importance of childhood obesity is that it causes obesity in individuals in adulthood (Centers for Disease Control and Prevention, 2021). With COVID-19, the factors affecting childhood obesity have intensified. For this reason, all factors affecting the nutrition of children in this period should be examined and evaluated separately. In addition, children should be directed to healthy eating types (Yılmazbaş and Gökçay, 2018).

The type of diet that is most frequently mentioned in the literature on the prevention of COVID-19 is the Mediterranean diet (MD) (Türkiye Diyetisyenler Derneği, n.d.). Many authorities recommend an increase in the consumption of fruits and vegetables and a decrease in the consumption of processed foods during this period to be protected from infection and/or to be able to overcome the infection easily (Türkiye Diyetisyenler Derneği, n.d.; World Health Organization, n.d.). The Mediterranean diet is known as an anti-inflammatory diet and is rich in olive oil, olives, fruits and vegetables, whole grains, legumes, and oilseeds. MD requires moderate consumption of eggs, fish, poultry, and dairy products, and meat and meat products are low. MD is also high in anti-inflammatory nutrients and immunomodulators.

Bioactive phenolics are essential compounds of this diet, as well. Therefore, it is thought that the MD could potentially be beneficial against infections such as COVID-19 due to its effects on immunity (Kuru Yasar and Aytekin, 2021). In addition to its protective effects on acute infections, the MD protects against various chronic diseases throughout life (Cena and Calder, 2020). For this reason, it is important for the nutrition and health of society that children adapt to the Mediterranean diet and maintain the nutritional habits of this diet type in adulthood.

Considering various studies, we hypothesized that uncertainties about COVID-19 also increase the health concerns of families (Ren et al., 2020; Wu et al., 2020). Therefore, families can adopt healthier eating habits to prevent their children from getting sick.

This study aims to investigate the adaptation of children to the Mediterranean diet during the COVID-19 period. In addition, it was aimed to determine the relationship between parents' anxiety levels and children's KIDMED scores during the COVID-19 pandemic process.

Material and Methods

Participants and Procedure

This cross-sectional study includes people living in Istanbul, Turkey's most populous city, during the first wave of COVID-19 (Türkiye İstatistik Kurumu, n.d.). The data were collected between April 10 and June 20, 2020 (1-2.5 weeks after the initiation of the social confinement measures) using a web questionnaire. The criteria for inclusion in the study were a) being literate b) volunteering to participate in the study, c) having at least one child between the ages of 3-18, and d) not having any chronic disease. The exclusion criteria of the study were a) illiterate b) not volunteering to participate in the study c) not having a child between the ages of 3-18 and d) having a chronic illness. To collect a representative sample from Istanbul and to reach a large number of individuals through tablets, mobile phones, and computers, the questionnaire was created using the Google Forms tool and distributed using messaging apps (e.g., WhatsApp, social media like Facebook and Instagram) and emails through snowball sampling (Etikan et al., 2016). Each parent filled out the questionnaire for 1 child they had. Verbal and written consent was obtained from the participants during data collection. The sample size calculated for this survey was 520 using the G-Power program, based on a 5% error threshold and a test power of 0.95 for population size. The study group included 369 (62.9%) mothers and 220 (37.4%) fathers with children aged 3-18 years (n = 589).

The study was approved by the Ankara Medipol University Scientific Research and Publication Ethics Committee, adhering to the Helsinki Declaration protocols (AMU-GOKAEK-number: 74791132-604.01.01/821) (World Medical Association, 2018).

Instruments

The questionnaire form consists of demographic characteristics (7 items), health and nutrition information (7 items), KIDMED (16 items), BAI (21 items), and CAS (5 items) parts. Due to the pandemic conditions, all information obtained from the participants is based on the declaration.

The KIDMED index, a fast, easy, and valid tool for measuring adherence to the Mediterranean diet, was developed by Serra-Majem et al. (Serra-Majem et al., 2004). A validity and reliability study for Turkey was conducted by Şahingöz et al (Şahingöz et al., 2019). The index, which can be conducted by a pediatrician or dietitian or self-administered, varies between 0-12 ranges. Negative statements about the Mediterranean diet were scored as -1 and positive statements as +1 point. It can be said that the higher the score, the higher the diet quality. According to the KIDMED index; ≥ 8 points show "optimal", 4-7 points "average", and ≥ 3 points "very low" diet quality (Serra-Majem et al., 2004).

Lee (Lee, 2020) developed the Coronavirus Anxiety Scale to identify possible causes of dysfunctional anxiety associated with the COVID-19 pandemic. It is a 5-point Likert-type scale. The scale consists of 5 questions and one dimension. Scoring of the scale; "0" "never", "1" "rare, less than a day or two", "2" "a few days", "3" "more than 7 days", and "4" "almost every day in the past two weeks" is carried out. The highest score obtained from the scale is 20 points. Scores of 9 and above can be interpreted as a high level of anxiety (Lee, 2020). Biçer et al. conducted the validity and reliability study of this questionnaire for our country (Biçer et al., 2020).

Beck Anxiety Inventory was designed to evaluate clinical anxiety and to distinguish anxious diagnostic groups. The validity and reliability study in Turkey was carried out by Ulusoy et al. (Ulusoy et al., 1998). The 21-question scale mainly focuses on the physiological aspect of anxiety. Four items of the scale assess anxious mood, 3 items assess certain fears, and 14 items assess anxiety disorder, and panic symptoms caused by autonomic hyperactivity and motor tension. Survey questions were rated on a 4-point scale ranging from 0 (not at all) to 3 (seriously- I could barely stand it). The total score range is between 0-63. A total score of 0-7 indicates minimal anxiety, 8-15 mild anxiety, 16-25 moderate anxiety, and 26-63 severe anxiety (Ulusoy et al., 1998).

Data Analysis

Statistical Package for Social Sciences (SPSS) 22.0 and SPSS AMOS (24.0) programs were used in the statistical analysis of the data. Descriptive statistics are presented with frequency, percentage, mean, and standard deviation values. Factor analysis was applied to determine the factor structure of the question groups in the study. To test the internal consistency of the dimensions, Cronbach Alpha analysis was used. The Kolmogorov-Smirnov test was used to determine the normality assumptions of the dimensions and sub-dimensions. According to the test result, it was observed that there

were distributions suitable for the normal distribution since the distribution was compatible with normality, the number of samples was large and there were no deviant values. According to these results, it was decided to apply normal distribution tests ($p > 0.05$). Independent sample t-test and ANOVA test were used to analyze the dimensions according to the characteristics of the participants. Sidak and Tamhane's tests were applied to determine the groups that differed as a result of the ANOVA test. Correlation analysis was applied to determine the relationship between dimensions. The results were evaluated at a 95% confidence interval and $p < 0.05$.

Results

Table 1 shows the sociodemographic characteristics of parents and their children. Amongst the parents who participated in the study; 37.4% were male, and 62.6% were female. The mean age of the parents was 38.07 ± 7.5 years; the children and adolescents' ages were 15.07 ± 2.5 (3.0-18.0) years. Concerning parents' educational level, the results showed that 53.80% were university graduates and 27.80% were postgraduate degrees. While the presence of chronic disease in parents is 41.80%, it is 7.6% in children.

Table 1. Sociodemographic characteristics for parents and their children

		N (%) / Mean \pm SD
Parents' gender	Male	220 (37.40)
	Female	369 (62.60)
Child's gender	Male	325 (55.17)
	Female	264 (44.83)
Child's age (year)		15.07 \pm 2.50
Parents' age (year)		38.07 \pm 7.50
Relationship status	Married	528 (89.60)
	Single	61 (10.40)
Number of children currently in the household	1	280 (47.50)
	2	216 (36.70)
	≥ 3	93 (15.80)
Parents' chronic disease	Yes	246 (41.80)
	No	343 (58.20)
Child's chronic disease	Yes	45 (7.60)
	No	544 (92.40)
Parents' education level	Primary school graduate	49 (8.30)
	High school graduate	59 (10.00)
	University graduate	317 (53.80)
	Postgraduate degree	164 (27.80)
Parents' past traumatic event	Yes	161 (27.30)
	No	428 (72.70)
Self-assessment of healthy eating	Bad	69 (11.70)
	Not bad	269 (45.70)
	Good	206 (35.00)
Parents' acquaintance diagnosed with COVID-19	Very good	45 (7.60)
	Yes	405 (68.80)
	No	184 (31.20)
Frequency of the following news about the pandemic	None	37 (6.30)
	Rare	72 (12.20)
	Sometimes	146 (24.80)
	Often	143 (24.30)
Using regular dietary supplements before COVID-19	Anytime	191 (32.40)
	Yes	112 (19.00)
Starting nutritional supplements after COVID-19	No	477 (81.00)
	Yes	242 (41.10)
Using regular nutritional supplements for children before COVID-19	No	347 (58.90)
	Yes	141 (23.90)
Starting nutritional supplements after COVID-19 for child	No	448 (76.10)
	Yes	195 (33.10)
	No	394 (66.90)

When the participants evaluated themselves in terms of healthy nutrition, it was seen that 42.60% of them evaluated themselves as good or very good. It has been reported that more than half of the parents (68.80%) were diagnosed with COVID-19. While the rate of parents who used nutritional supplements for themselves before

COVID-19 was 19.0%, this rate increased to 41.1% after the pandemic. The rate of dietary supplement use by parents for their children increased from 23.9% to 33.1%.

Table 2 summarizes the characteristics of the scales used in the study. The scores of the scales are 8.96±2.4 (KIDMED), 1.08±2.1 (CAS), and 7.69±8.19 (BAI) points.

Table 2. Mean scores, reliability level, explained variance rates, and KMO sample coefficients of the scales

Scales	Mean ± SD	Reliability	Variance	KMO
KIDMED	8.96±2.40	0.93	%63	0.92
CAS	1.08±2.11	0.91	%56	0.90
BAI	7.69±8.19	0.96	%68	0.94

*KMO: Kaiser-Meyer-Olkin coefficient, Mediterranean Diet Quality Index=KIDMED, Beck Anxiety Inventory=BAI, Coronavirus Anxiety Scale=CAS

While there was no significant relationship between KIDMED and CAS scores according to gender, it was observed that female participants had higher anxiety levels than men according to BAI score (p=0.01). It was observed that the KIDMED and BAI scores of married individuals were higher than those of singles (p=0.01). Coronavirus anxiety levels were not different according to relationship status (p=0.14). It was determined that the KIDMED levels were indifferent according to the number of children, and the coronavirus anxiety and anxiety levels of the participants with ≥3 children were significantly lower than the other groups (p=0.01).

No significant correlation was found between the differences in KIDMED, CAS, and BAI scores according to the chronic disease status of the parents. Despite this, it was determined that the KIDMED scores of the children were low and the CAS and BAI scores were high due to the chronic disease in their children (p<0.05). It was determined that KIDMED levels were not different according to educational status, and participants with primary education had significantly lower CAS and BAI scores (p=0.01). While CAS and BAI scores were significantly higher in individuals who

had experienced a traumatic event in the past, no correlation was found between KIDMED scores. When the individuals evaluated themselves according to their nutritional status, it was determined that the KIDMED levels were not different between the groups, and the CAS and BAI scores of the participants who defined the nutrition level as very good were lower (p=0.01).

It was determined that the CAS and BAI scores of the parents increased significantly after a relative was diagnosed with COVID-19 (p=0.01). There is no difference between the KIDMED scores (p=0.06).

It was observed that only the anxiety levels of the participants who used nutritional supplements regularly before COVID-19 were significantly higher (p=0.01). The increase in the use of supplements after the onset of COVID-19 was significantly associated with an increase in coronavirus anxiety in addition to general anxiety (p=0.01). While the rate of supplementation to a child before and after COVID-19 was not associated with the mean KIDMED score, it was significantly higher with the CAS and BAI scores (p=0.01) (Table 3.1., Table 3.2.).

Table 3.1. The relationship between some characteristics of the participants and their scale scores

		KIDMED	CAS	BAI	P1	P2	P3
		mean±SD	mean±SD	mean±SD			
Parents' gender	Male	9.05±2.53	0.89±1.74	4.72±7.23	0.41	0.12	0.01*
	Female	8.91±2.32	1.19±2.30	9.46±8.23			
Relationship status	Married	9.23±2.27	1.10±2.10	8.22±8.12	0.01*	0.14	0.01*
	Single	6.62±2.22	0.89±2.24	3.07±7.36			
Number of children currently in the household	1	8.69±2.52	0.97±1.81	7.72±8.30	0.23	0.01*	0.01*
	2	9.19±2.25	1.56±2.64	9.40±8.62			
	≥3	9.25±2.31	0.30±1.07	3.62±4.80			
Parents' chronic disease	Yes	8.87±2.19	1.17±2.46	8.02±7.16	0.08	0.22	0.33
	No	9.03±2.54	1.01±1.83	7.45±8.86			
Child's chronic disease	Yes	6.96±1.69	1.98±2.55	9.47±9.29	0.01*	0.04*	0.03*
	No	9.13±2.38	1.01±2.06	7.54±8.09			
Education level	Primary school graduate	8.24±2.76	0.22±0.77	3.88±4.32	0.16	0.01*	0.01*
	High school graduate	9.56±2.28	0.92±1.66	7.25±4.85			
	University graduate	8.77±2.23	0.85±1.65	7.86±8.31			
	Postgraduate degree	9.33±2.56	1.84±2.96	8.65±9.43			

*p<0.05 was considered statistically significant; Mediterranean Diet Quality Index=KIDMED, Beck Anxiety Inventory=BAI, Coronavirus Anxiety Scale=CAS, p1 shows the relationship of the variable with KIDMED, p2 shows the relationship with CAS, and p3 shows the relationship with BAI.

Table 3.2. The relationship between some characteristics of the participants and their scale scores

		KIDMED	CAS	BAI	P1	P2	P3
		mean±SD	mean±SD	mean±SD			
Past traumatic event	Yes	8.60±2.30	1.60±2.91	10.24±7.94	0.18	0.01*	0.01*
	No	9.10±2.43	0.88±1.69	6.73±8.09			
Self-assessment of healthy eating	Bad	9.51±2.12	0.94±2.05	11.30±13.32	0.09	0.01*	0.01*
	Not bad	8.52±2.17	0.85±1.51	9.29±7.48			
	Good	9.16±2.82	1.64±2.80	5.80±6.26			
The parent's acquaintance diagnosed with COVID-19	Yes	9.84±1.35	0.11±0.32	1.24±2.09	0.06	0.01*	0,01*
	No	9.14±2.52	1.32±2.33	8.92±8.26			
		8.57±2.07	0,55±1,39	4,97±7,37			
Using regular dietary supplements before COVID-19	Yes	9.76±2.12	1.21±1.61	13.76±8.36	0.05	0.08	0.01*
	No	8.77±2.43	1.05±2.22	6.26±7.48			
Starting nutritional supplements after COVID-19	Yes	9.87±2.50	1.44±2.58	9.62±7.01	0.11	0,01*	0,01*
	No	8.01±2.20	0.83±1.67	6.35±8.69			
Using regular nutritional supplements for children before COVID-19	Yes	9.61±2.34	2.32±2.97	12.62±8.52	0.08	0.01*	0.01*
	No	8.76±2.39	0.69±1.57	6.14±7.45			
Starting nutritional supplements after COVID-19 for child	Yes	9.75±2.20	1.84±2.79	9.45±7.88	0.10	0.01*	0.01*
	No	8.57±2.40	0.71±1.55	6.82±8.21			

**p*<0.05 was considered statistically significant; Mediterranean Diet Quality Index=KIDMED, Beck Anxiety Inventory=BAI, Coronavirus Anxiety Scale=CAS, *p*1 shows the relationship of the variable with KIDMED, *p*2 shows the relationship with CAS, and *p*3 shows the relationship with BAI.

Lastly, the Pearson correlation coefficient showed that the CAS and BAI scores were weakly associated with the KIDMED score (*r*=0.39*; *p*=0.01 and *r*=0.14*; *p*=0.01). It has been reported that scale scores tend to increase, albeit weakly, with KIDMED scores (Table 4).

Table 4. Correlation between BAI and CAS score and KIDMED

	KIDMED (r;p)	CAS (r;p)	BAI (r;p)
KIDMED	-	0.39*; 0.01	0.14*;0.01
CAS	0.39*; 0.01	-	-
BAI	0.14*;0.01	-	-

*Mediterranean Diet Quality Index=KIDMED, Beck Anxiety Inventory=BAI, Coronavirus Anxiety Scale=CAS; *p*<0.05 was considered statistically significant

Discussion

A healthy and balanced diet is very important in terms of obtaining sufficient and timely energy and nutrients necessary for growth, development, protection of health, and increasing the quality of life (UNICEF, 2019). Childhood and adolescence are important for the acquisition and maintenance of healthy lifestyle behaviors. In these two periods, lifestyle and eating behaviors develop, individuals' control over their eating preferences increases, and the healthy eating behaviors gained in this period affect adulthood (Winpenny et al., 2018; Sümen and Evgin, 2022). However, it is unclear what kind of psychosocial and physical negative effects the COVID-19 pandemic, which affects the whole world, will cause in the future. For this reason, the research carried

out during this period is very important to take the necessary precautions for possible pandemics.

Various scales (Lee, 2020; Taylor et al., 2020; Choi et al., 2022) have been developed to measure the psychosocial changes caused by the COVID-19 pandemic in the individual. In our study, a coefficient (0,91) close to the Coronavirus Anxiety Scale reliability coefficient developed by Lee was found (Lee, 2020). In addition, the validity coefficient of the KIDMED and BAI scales is higher than other studies conducted in our country (Ulusoy et al., 1998; Şahingöz et al., 2019). All this supports the accuracy of our study data.

Parents are important agents of change in the childhood obesity pandemic (Ash et al., 2017). For example, children's fruit and vegetable intakes were found to be positively correlated with parents' fruit and vegetable intakes (Tibbs et al., 2001). In addition, in the study conducted by Tommasi et al. (Tommasi et al., 2022), it was determined that the evaluations of both mothers and fathers regarding children's eating habits were reliable. Accordingly, we included both mothers and fathers in our study. Tommasi et al. also reported that unhealthy eating habits were linked to children's behavioral problems and parental stress (Tommasi et al., 2022). In our study, a significant difference was observed between mothers and fathers only in general anxiety (*p*=0.001). General anxiety was higher in mothers than in fathers. However, no difference was found between the children's KIDMED scores or the presence of coronavirus anxiety. Regardless of gender, the mean BAI score was 7.69±8.19, the mean CAS score was 1.08±2.11, and the KIDMED score of the children was 8.96±2.40. However, a

weak positive correlation was found between the parents' BAI score and the children's KIDMED score averages ($r=0.14$; $p=0.01$). This result is parallel to the results of the CAS scale (0.39 ; $p=0.01$).

CAS and BAI scores of the participants who defined the nutrition level as very good were lower. Accordingly, it can be said that individuals who believe that they eat healthy can manage their anxiety in adverse situations such as pandemics (Schou et al., 2021). However, any significant difference between their children's KIDMED mean scores may indicate that the idea of healthy eating has not been put into practice. For this, more detailed studies should be conducted to investigate the effects of thoughts on behavior.

In our study, the coronavirus anxiety of parents was found lower than in other studies (Gayretli and Sönmez Düzkaaya, 2023; Mendeş et al., 2022; Çevik Güner and Ayar, 2022). This may be because the study date coincided with the first wave of the epidemic, as Bendau et al. reported (Bendau et al., 2021). No COVID-19 mutations were developed during these dates. In addition, the fact that individuals have not been infected with COVID-19 may have lowered people's coronavirus anxiety levels. In our study, general and COVID-19 anxiety is higher in individuals with high educational status among the participants. However, these data are specific to our study and are in contrast to the data found by Soyani et al. (Soyani et al., 2022). It can be predicted that as the level of education increases, awareness increases, and as a result, general and coronavirus anxiety increases.

According to the results of the study, a weak positive correlation was found between the CAS scores of the parents and the KIDMED scores of the children ($r=0.39$; $p=0.01$). This shows that if parents have a minimal level of anxiety, they can positively affect their children's nutrition. In addition, the fact that parents increase the use of supplements for both themselves and their children with the pandemic proves that individuals benefit from fields such as nutrition and pharmacology to protect their health and not get sick.

The implementation of the Mediterranean diet is an important factor in enabling adequate and balanced nutrition. As well as the determined increase in diet quality and improvement in the physical and mental health of children and adolescents based on compliance with the Mediterranean diet compliance helps children and adolescents to lead a healthy life by preventing the development of obesity and related chronic diseases (Bacopoulou et al., 2017; Esteban-Gonzalo et al., 2019). Although it is partially on the coast of the Mediterranean, the Mediterranean diet is mostly not practiced in our country (Şahingöz et al., 2019). For a healthy society, it is very important for children and adolescents to have adequate and balanced nutrition and to acquire healthy eating habits. For this reason, it is recommended to increase the tendency to the Mediterranean diet in this age group (Türkiye Cumhuriyeti Sağlık Bakanlığı, 2015). In studies conducted with children and adolescents during the COVID-19 period, the mean KIDMED score in Turkey

was found to be 5.81 ± 2.04 to 6.40 ± 2.37 points (Sümen and Evgin, 2022; Seremet Kürklü et al., 2023). Accordingly, it can be said that there is moderate compliance with the Mediterranean diet (Sümen and Evgin, 2022). Our research data support this study and the mean KIDMED score in children and adolescents was found to be 8.96 ± 2.40 . According to these data, the tendency of children to the Mediterranean diet during the period of COVID-19 was higher than in Spain (Villodres et al., 2021) and lower than in Croatia (Kendel Jovanović et al., 2021). When the studies conducted in our country were examined (Kabaran and Gezer, 2013; Kırşan and Özcan, 2021), no deterioration was observed in the mean scores of KIDMED after the pandemic.

Although three years have passed since the pandemic, 17 million cases and 100 thousand deaths have been seen throughout the country (Türkiye Cumhuriyeti Sağlık Bakanlığı, n.d.). Accordingly, in our study, it is an expected result that individuals with a diagnosis of COVID-19 have coronavirus anxiety and general anxiety ($p=0.01$). It has been determined by various researchers that the incidence of psychosocial conditions such as anxiety and depression increased in the following days of the epidemic and that the current anxiety levels increased (Bendau et al., 2021; Fountoulakis et al., 2021).

The findings of our study, similar to the study of Hafiz et al., reported that the use of nutritional supplements during the COVID-19 pandemic period was higher than before the COVID-19 pandemic period (Hafiz et al., 2023). Significantly, an increase in supplement use increase was found to be higher in people with coronavirus anxiety and general anxiety ($p=0.01$). Despite all this, the fact that these data are not associated with children's KIDMED scores indicates that they differ at some point from feeding. So, dietary approaches and nutritional behaviors cannot be reconciled with the use of supplements.

Limitations

In our study, children's food consumption record or food consumption frequency questionnaire with various foods was not used. It is useful to use food consumption records, anthropometric measurements, and biochemical measurements, which can be affected by variables such as regional habits and income level, in the research. In addition, since the parents were evaluated according to their anxiety levels, it was not a diagnostic evaluation, and it was interpreted with the scale score. So large-scale studies should be conducted. The region and sample size of the present study cannot be generalized to the whole of Turkey.

Conclusion

The closure of schools and other COVID-19 restrictions have disrupted children's and adolescents' daily routines and led to changes in their eating behaviors and physical activities. In our study, the effect of parents' psychosocial health on child nutrition was reported. Accordingly, the fact that parents are physically and mentally healthy also

affects their children. The Mediterranean diet is a type of diet with proven health benefits. Parents can be informed so that this type of diet can become widespread among people. The study data are valuable for planning future public health programs that promote healthy eating behavior for both children and their parents, enabling children and adolescents to live healthier adulthood.

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