

Factors Related to Oral Hygiene and Dietary Behaviors in Children During the Pandemic-Lockdown

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Abstract

To analyze the impact of the COVID-19 lockdown on oral hygiene practices and eating habits in Turkish children and the relationship between parental employment status and education levels.

A cross-sectional survey was carried out from March 2021 to May 2021 and conducted on 402 children (aged 5-14 years). Parents were interviewed using a structured questionnaire on current demographics and dietary and oral hygiene habits in children before and during the lockdown. The caries experience was measured using the DMFT index. Relationships between dependent categorical variables were tested using the Chi-square test, the Mc-Nemar test, and the Wilcoxon rank test.

Consumption of processed food increased, and tooth brushing frequency (TBF) decreased in the total population. TBF was associated with the employment status changes of the mother. Children in low-education groups showed more unhealthy food consumption, lower TBF, and less parental supervision than those in high-education groups.

COVID-19 lockdown negatively influenced children's eating and tooth-brushing habits. School closure and the change in parental employment patterns could have affected their daily routine.

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Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes a respiratory disease called coronavirus disease 19 (COVID-19), representing one of the major medical emergencies in recent years. The first case was reported in Wuhan, China, at the end of 2019, and the World Health Organization (WHO) declared the global virus pandemic as a public health emergency of international importance on March 11, 2020. The pandemic led governments to impose strict restrictions on their citizens to prevent the spread of infection in the community. These restrictions included work-from-home and school, shop, and restaurant closures to control the contagion.¹

Turkey was one of the European countries most severely affected by the COVID-19 pandemic, with more than 14 million people infected as of April 8, 2022. Turkish families faced sudden and significant changes, especially in daily habits and lifestyles.²

Children have a prominent role in community-based virus transmission. Child-to-child transmission occurs more readily in group settings, such as playgrounds, kindergartens, and schools.³ On account of school closures, online learning was implemented for all primary, secondary, and high school students in Turkey, as in many other countries.⁴ Mandatory isolation to control the COVID-19 pandemic disrupted daily routines, diet, activity, and sleep habits.⁵ Dental caries is common in schoolchildren and directly related to inappropriate eating habits and inadequate oral hygiene.⁶ Parental behaviors, demographic factors, and employment status may impact dietary choices and oral hygiene behaviors, increasing the incidence of caries in children.⁷

Good oral hygiene is part of general health and contributes to disease prevention,

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quality of life, and physical and psychological health.⁸ Parental attitudes and responsibilities of parents toward their children's oral health are important to ensure optimal oral health in the future, and families should help children achieve proper oral hygiene and a regulated diet.^{9,10}

To the best of our knowledge, there is no study evaluating the impact of the COVID-19 lockdown on oral hygiene practices and eating habits in schoolchildren in and its relationship between parental education and employment status. Therefore, this study aimed to analyze the daily lifestyle of a group of Turkish children during quarantine and evaluate its possible impact on oral hygiene practices and eating habits.

Materials and methods

Setting and participants

This descriptive cross-sectional study was conducted following the guidelines of "Strengthening the Reporting of Observational Studies in Epidemiology" (STROBE statement). Children between 5 to 14 years were randomly selected using simple random sampling from the outpatient clinic at Pediatric Dentistry, Pediatric Dentistry, Marmara University, Istanbul, Turkey from March 2021 to May 2021. Data on caries status were collected using visual-tactile examinations without radiographs. Caries status was recorded as decayed, missing, and filled permanent teeth (DMFT) and primary teeth (dmft) according to the WHO criteria (2013).¹¹

The inclusion criterion was chronological age between 5 to 14 years. Exclusion criteria were systemic disease, craniofacial anomalies, orthodontic treatment, special needs, or refusal to give informed consent.

The sample size was calculated at 389, based on previous study¹², using G*power version 3.1.9.6. ($\alpha=0.05$, $1-\beta=0.80$, effect size:0.82).

Questionnaire design

The present study was reviewed and approved by the Marmara University Faculty of Dentistry Ethics Committee (Protocol number: 09.2021.583). Parents and children were provided oral and written information about the study as part of the consent process. The questionnaire was designed in Turkish to evaluate oral hygiene practices and eating habits among children; researchers randomly

administered structured questionnaires to parents accompanying their children during a dental visit at the Pediatric Dentistry Department. The questionnaire was pretested on 25 participants, and incomprehensible or confusing questions were edited and excluded from the study.

The questionnaire required respondents to provide information on three aspects: I) socio-demographic characteristics II) daily diet and eating habits III) oral health of children.

In the socio-demographic characteristics section, data collected included details of the age and gender of the child, the parent's education level, and current employment status-particularly on work from home and primary caregiver during the lockdown. In the second part, participants were asked about food consumed between meals before and during the quarantine, including packaged sweets (candies, chocolates), salted snacks (chips, salty sticks, and crackers), starchy foods (cakes, biscuits), fruits, nuts, vegetables, sugary and acidic drinks, and probiotic products). In the third section, caries experience among children was calculated using dmft and DMFT indices, with four questions regarding oral hygiene habits (frequency of toothbrushing, duration of toothbrushing, parental supervision, and dental visit during the pandemic).

Data Analysis

Descriptive statistics are given as numbers and percentages. The normal distribution of data was checked using the Kolmogorov-Smirnov test. Relationships between dependent categorical variables were tested using the Mc-Nemar test, Wilcoxon rank test, and Chi-square tests. SPSS 22.0 Windows version package program was used in the analysis. $P < .05$ was considered significant.

Results

Study participants

A total of 402 children (between 5 to 14 years) participated in the study (225 girls (56%); 177 boys (44%) boys). The mean age (\pm standard deviation) was 9.8 ± 2.45 years. The mean of the dmft index and DMFT indices were 2.32 ± 2.57 and 3.23 ± 2.74 , respectively. The number of non-carious lesions in children was very low (1.7%), and 395 (98.2%) children had dental caries.

Parental education levels and employment status

The distribution of parents according to education level and employment status is presented in Table 1. One of the parents was a university graduate, and another was either a university graduate or a high school graduate. Therefore, before the statistical analysis, the educational status of the parents was divided as follows:

High-education (HE) group: (at least one of the parents is a university graduate or both parents are high school graduates) (n=155)

Low-education (LE) group: (at least one of the parents is an illiterate or primary/middle school graduate) (n=247).

		N (%)	
Education level	Mother	Illiterate	11 (2.7)
		Primary/middle school	186 (46.3)
		High school	154 (38.3)
		University	51 (12.7)
		Father	Illiterate
Primary/middle school	170 (42.3)		
High school	167 (41.5)		
University	62 (15.4)		
Employment status	Mother	Going to workplace	37 (9.2)
		Flexible	48 (11.9)
		Home office	25 (6.2)
		Not working	263 (65.4)
		Quit the job	29 (7.2)
	Father	Going to workplace	206 (51.2)
		Flexible	91 (22.6)
		Home office	29 (7.2)
		Not working	38 (9.5)
		Quit the job	38 (9.5)

Table 1. Education level and employment status of parents.

Dietary habits

In response to the questions on snacks preferences between meals before and during the lockdown (shown in Table 2), Mc-Nemar analysis revealed a statistically significant

increase in consumption of “packaged sweets” ($P=.001$), “salted snacks” ($P=.001$), “starchy foods” ($P=.027$), “sugary and acidic drinks” ($P=.001$) and a statistically significant decrease in consumption of “fruits” ($P=.049$) and “vegetables” ($P=.017$) in all samples before and during the lockdown. “Nut” consumption before and during the lockdown was similar (18.2% and 18.9%, respectively) ($P>.05$).

Table 2 compares the snacks consumed before and during the lockdown by parental educational level. Children in the low-education group consumed packaged sweets ($P=.001$) and salted snacks ($P=.001$) more frequently, and vegetables ($P=.001$) and nuts ($P=.023$) less than the high-education group before lockdown. There was no difference between the education level groups during lockdown.

		Before lockdown		During lockdown		Total		
		Education		Education		Before lockdown	During lockdown	
		High	Low	High	Low	N (%)	N (%)	P
		N (%)	N (%)	N (%)	N (%)			
Packaging sweets	Yes	50 (32.3)	131 (53.3)	130 (83.9)	214 (86.6)	181 (45.1)	344 (85.6)	.001†
	No	105 (67.7)	115 (46.7)	25 (16.1)	33 (13.4)	220 (54.9)	58 (14.4)	
Salted snacks	Yes	102 (65.8)	202 (82.1)	140 (90.3)	209 (84.6)	304 (75.8)	349 (86.8)	.001†
	No	53 (34.2)	44 (17.9)	15 (9.7)	38 (15.4)	97 (24.2)	53 (13.2)	
Starchy foods	Yes	124 (80)	222 (89.9)	146 (94.2)	220 (89.1)	346 (86.1)	366 (91)	.027†
	No	31 (20)	25 (10.1)	9 (5.8)	27 (10.9)	56 (13.9)	36 (9)	
Fruits	Yes	138 (89)	211 (85.8)	134 (86.5)	201 (81.4)	349 (87)	335 (83.3)	.049†
	No	17 (11)	35 (14.2)	21 (13.5)	46 (18.6)	52 (13)	67 (16.7)	
Nuts	Yes	38 (24.5)	38 (15.4)	30 (19.4)	43 (17.4)	76 (18.9)	73 (18.2)	.832†
	No	117 (75.5)	209 (84.6)	125 (80.6)	204 (82.6)	326 (81.1)	329 (81.8)	
Vegetables	Yes	34 (21.9)	16 (6.5)	16 (10.3)	14 (5.7)	50 (12.4)	30 (7.5)	.017†
	No	121 (78.1)	231 (93.5)	139 (89.7)	233 (94.3)	352 (87.6)	372 (92.5)	
Sugary and Acidic drinks	Yes	17 (11)	38 (15.4)	22 (14.2)	46 (18.6)	55 (13.7)	68 (16.9)	.001†
	No	138 (89)	209 (84.6)	133 (85.8)	201 (81.4)	347 (86.3)	334 (83.1)	

Table 2. Changes in dietary habits according to education level of parents.

* Chi-square test, † Mc-Nemar test, Bold font: $P<.05$ level.

Table 3 shows the comparison of parental employment status. Consumption of “packaged sweets” showed a statistically significant increase in all employment statuses for both parents. Of the study population, 66 (29.1%) parents made

dietary changes using probiotics in their child's diet during the lockdown period, and most users (95%) preferred yogurt and kefir.

Oral Hygiene Habits

Toothbrushing frequency (TBF)

In all children, TBF significantly changed during lockdown ($P= .001$). Nearly half of the parents (48.8%) indicated that "TBF" was "once a day" before lockdown and 29.1% during the lockdown; 14.9% of the parents reported "TBF" was "twice a day" before lockdown and 5% during lockdown (Table 4).

TBF in the low-education group was statistically significantly lower than in the HE group before lockdown ($P= 0.001$) and during lockdown ($P= .001$) (Table 4). Change in the employment status of the mother was significantly associated with TBF. TBF in children whose mothers responded "go to the workplace" ($P= .001$), "not working" ($P = .001$), and "quit the job" ($P = .001$) showed a statistically significant decrease. There was no significant change in the groups when the mother chose the "flexible" ($P= .08$) or "home-office" ($P= .06$) option (Table 5).

	Before lockdown		During lockdown		Total		P	
	Education		Education		Before lockdown	During lockdown		
	High	Low	High	Low				
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)		
TBF	More than 2 times a day	0	0	3 (1.9)	0	0	3 (0.7)	.001*
	2 times a day	58 (37.4)	2 (0.8)	20 (12.9)	0	60 (14.9)	20 (5)	
	Once a day	57 (36.8)	139 (56.3)	67 (43.2)	50 (20.2)	196 (48.8)	117 (29.1)	
	Not at all	40 (25.8)	106 (42.9)	65 (41.9)	197 (79.8)	146 (36.3)	262 (65.2)	
TBD	Less than 1 minutes	150 (96.8)	246 (99.6)	146 (94.2)	247 (100)	396 (98.5)	393 (97.8)	.549
	1-2 minutes	5 (3.2)	1 (0.4)	9 (5.8)	0	6 (1.5)	9 (2.2)	
	More than 2 minutes	0	0	0	0	0	0	
	PS	Yes	17 (11)	0	16 (10.3)	0	17 (4.2)	
No	138 (89)	247 (100)	139 (89.7)	247 (100)	385 (95.8)	386 (96)		

Table 4. Change of oral hygiene habits according to education level of parents

Tooth brushing duration (TBD)

TBD ($P= .549$) did not show a statistically significant difference in the sample (Table 4) and also in different employment statuses of mothers and fathers (Table 5).

TBD of the LE group was statistically significantly lower than the TBD of the HE group before lockdown ($P=.02$) and during lockdown ($P=.001$).

Parental Supervision (PS)

A minority of participants in the whole sample indicated that they assisted their children during tooth brushing (BL: 4.2% and DL: 4%, ($P=1.00$) Parental supervision in the low-education group was statistically significantly lower than in the high-education group before lockdown ($P= .001$) and during lockdown ($P= .001$) (Table 4).

Other factors

A total of 152 (37.8%) parents reported they had visited a dentist at least once since the beginning of the lockdown; the majority (26.3%) reported toothache or swelling. Primary caregivers to the child during the pandemic quarantine were as follows: mother (58.5%), father (1.7%), both parents (34.1%), and grandparents (5.7%).

Discussion

This cross-sectional study showed the association of the COVID-19 outbreak on dietary behaviors and oral hygiene among children and its relationship between parental employment status and education level. School closures could have long-term deleterious consequences for child health and affect the work abilities of parents.¹³ The pandemic-related quarantine can be considered a stressful event, and such events are known to affect eating patterns.¹⁴ Brooks et al.¹⁵ reported a systematic review of 24 studies examining psychological states. Results showed that the quarantine associated with the pandemic increased the risk of depression, stress, low mood, and acute and post-traumatic stress symptoms among health workers, parents, and children. Extended stay-at-home may also support eating and snacking.¹⁶ Bonaccio M *et al.* reported that there was increased consumption of unhealthy foods and a worsening of healthy dietary habits during the COVID-19 lockdown.¹⁷ The current study found increased consumption of "packaged sweets," "salted snacks," "starchy foods," and "sugary and acidic drinks" and decreased consumption of "fruits" and "vegetables" in all samples during the lockdown period (Table 2). Consistent with the present results, earlier studies demonstrated an increase in sweet consumption and the number of meals¹⁸ and increased intake of red meat, chips, and

sweetened beverages during the COVID-19 lockdown in the pediatric population.⁵ López-Bueno et al.¹⁹ reported a significant reduction in fruit and vegetable consumption in children during the COVID-19 lockdown, consistent with our findings. Contrary to these results, a study involving adults showed that lockdown led to higher consumption of foods characterizing the Mediterranean dietary pattern.²⁰ The fact that some parents were obligated to work from home may be one of the reasons they had difficulty preparing healthy meals for their children, which may have led to the worsening of their dietary habits, as almost all children were at an age when they did not know how to cook for themselves.¹⁹ Solutions that help parents reliably secure affordable, nutritious foods for their families need priority for better child health.¹⁰

There is a strong connection between education, income, and life expectancy. Socio-demographic factors, dietary habits, and oral hygiene practices demonstrate an association with dental caries.²¹ The current study findings confirmed the association between parental education level toward the development of oral hygiene and dietary habits in their children. The low-education group consumed more “packaged sweets” and “salted snacks” and fewer “nuts” and “vegetables” before the lockdown than the high-education group (Table 2). Similar to the results of the present study, a previous study indicated negative changes in diet, sleep, and lifestyle behaviors in children and adolescents with obesity during 3 weeks of lockdown.⁵

Another study conducted in Greece reported that children's frequency of toothbrushing was decreased and daily consumption of food and sugary snacks was increased.²²

Parental perception is crucial to child health and influences their well-being. Parents should directly participate in oral hygiene and care measures, such as tooth brushing and diet regulation, for children.²³ Being at home in the lockdown with the interruption of their daily routines can cause physical and psychological difficulties for children. Regular tooth brushing is an inseparable and important part of daily routine care and is associated with other lifestyle events, such as breakfast and bedtime.²⁴ TBF showed associations with emotional distress in adults

during the COVID-19 pandemic.²⁵ The current study found that TBF in most participants decreased during the pandemic period (Table 4), probably because children did not attend school for face-to-face education. School closure, online education, increased number and frequency of meals, and no time constraints for tooth brushing due to staying at home could be responsible for the increase in irregular brushing.²⁶ Another study reported that the overall parental attitude and practices were poor toward the oral health of their children during the lockdown period of the COVID-19 pandemic.²⁷ Contrary to these results, some studies reported that most participants did not change their oral hygiene habits during the COVID-19 pandemic.^{18,28}

Parental attitudes toward child oral health are important and related to socioeconomic factors such as educational level.²⁹ Our study confirmed that TBF, TBD, and PS were associated with parental education levels. The percentage of those who brushed their teeth at least once a day was lower in the low-education group compared to the high-education group. The low-education group reported more “not at all” answers for TBF questions than the high-education group before and during lockdown periods. Overall, participants in the LE group indicated TBD was “less than 1 minute” and “no” to answers for PS (Table 5).

We found some associations between the changed employment statuses of mothers and TBF. Compared to children whose mothers responded “flexible” or “home-office,” children whose mothers replied, “go to workplace” or “not working” and “quit the job” were less likely to show a decrease in TBF, probably because mothers, who reported to the workplace before the pandemic, stayed at home and took more care of their children (Table 5). Another study investigating parental employment status and child oral health reported that children with both parents working had more carious teeth.⁹

Kalyoncu et al.³⁰ conducted an online questionnaire study using WhatsApp on Turkish children between 8 to 18 years and found that consumption of fast food, packaged food, and carbonated beverages decreased during the COVID-19 outbreak. The reasons for obtaining different results from our study may be listed as follows: 1) The age group of the participating children was different 2) The questionnaire was

sent via WhatsApp to mothers, and the participants belonged to the author's environment and therefore from a better socio-economic environment 3) the study excluded patients who applied to the dental clinic for any reason.

The present study had some limitations. First, the study had a cross-sectional research design. Second, the data were derived from a sample of parent interviews, and there were no quantitative measures of dietary and oral hygiene habits. These limitations are understandable, given the requirements prevailing at the time of this study.

Conclusions

The COVID-19 pandemic had a significant impact on human life, leading governments to impose strict restrictions on citizens to prevent community spread of infection. For children, being quarantined at home brought more psychological difficulties, and school closures could have long-term deleterious consequences for their health and parents' ability to work. During the lockdown in Turkey, children showed an increased preference for junk food and sugary foods, and the psychological effects

of the pandemic resulted in less attention to self-care, such as tooth brushing. This survey found that oral hygiene and dietary behaviors changed negatively among children in Turkey during the COVID-19 lockdown, with an increased risk factor of caries compared to protective factors. Furthermore, parental employment status changes and level of education may have an impact on children's dietary choices and oral hygiene behaviors. This study provides a snapshot of the possible impact of the COVID-19 lockdown on diet and oral hygiene habits in the Turkish pediatric population. Overall, these findings underscore the importance of promoting healthy habits, particularly during times of crisis, to mitigate the negative impact on children's health.

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Declaration of Interest

The authors report no conflict of interest.

Employment status of mother N (%)																
		Going to workplace			Flexible			Home office			Not working			Quit the job		
		BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P
Packaging sweets	Yes	13(35)	31(83.8)	.001	21(43.8)	41(85.4)	.001	6(24)	22(88)	.001	124(47.3)	222(84.4)	.001	17(58.6)	28(96.6)	.001
	No	24(64.9)	6(16.2)		27(56.3)	7(14.6)		19(76)	3(12)		138(52.7)	41(15.6)		12(41.4)	1(3.4)	
Salted snacks	Yes	27(73)	33(89.2)	.109	37(77.1)	44(91.7)	.092	16(64)	20(80)	.344	201(76.7)	228(86.7)	.005	23(79.3)	24(82.8)	1.000
	No	10(27)	4(10.8)		11(22.9)	4(8.3)		9(36)	5(20)		61(23.3)	35(13.3)		6(20.7)	5(17.2)	
Starchy foods	Yes	33(89.2)	32(86.5)	1.000	42(87.5)	44(8.3)	.727	19(76)	24(96)	.125	225(85.6)	238(90.5)	.092	27(93.1)	28(96.6)	1.000
	No	4(10.8)	5(13.5)		6(12.5)	4(8.3)		6(24)	1(4)		38(14.4)	25(9.5)		2(6.9)	1(3.4)	
Fruits	Yes	30(81.1)	25(67.6)	.180	45(93.8)	43(89.6)	.687	21(84)	24(96)	.250	230(87.8)	219(83.3)	.035	23(79.3)	24(82.8)	1.000
	No	7(18.9)	12(32.4)		3(6.3)	5(10.4)		4(16)	1(4)		32(12.2)	44(16.7)		6(20.7)	5(17.2)	
Nuts	Yes	3(8.1)	8(21.6)	.125	12(25)	7(14.6)	.180	10(40)	5(20)	.180	47(17.9)	47(17.9)	1.000	4(13.8)	6(20.7)	.727
	No	34(91.9)	29(78.4)		36(75)	41(85.4)		15(60)	20(80)		216(82.1)	216(82.1)		25(86.2)	23(79.3)	
Vegetables	Yes	4(10.8)	3(8.1)	1.000	6(12.5)	3(6.3)	.453	9(36)	3(12)	.109	28(10.6)	18(6.8)	.143	3(10.3)	3(10.3)	1.000
	No	33(89.2)	34(91.9)		42(87.5)	45(93.8)		16(64)	22(88)		235(89.4)	245(93.2)		26(89.7)	26(89.7)	
Sugary and acidic drinks	Yes	4(10.8)	6(16.2)	.500	3(6.3)	6(12.5)	.250	3(12)	4(16)	1.000	41(15.6)	47(17.9)	.070	4(13.8)	5(17.2)	1.000
	No	33(89.2)	31(83.8)		45(93.8)	42(87.5)		22(88)	21(84)		222(84.4)	216(82.1)		25(86.2)	24(82.8)	

Employment status of father N (%)																
		Going to workplace			Flexible			Home office			Not working			Quit the job		
		BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P
Packaging sweets	Yes	82(39.8)	172(83.5)	.001	40(44.4)	76(83.5)	.001	15(51.7)	27(93.1)	.002	18(47.4)	38(100)	.001	17(58.6)	28(96.6)	.001
	No	124(60.2)	34(16.5)		50(55.6)	15(16.5)		14(48.3)	2(6.9)		20(52.6)	0		12(41.4)	1(3.4)	
Salted snacks	Yes	141(68.4)	178(86.4)	.001	67(74.4)	80(87.9)	.017	27(93.1)	22(75.9)	.180	34(89.5)	36(94.7)	.687	23(79.3)	24(82.8)	1.000
	No	65(31.6)	28(13.6)		23(25.6)	11(12.1)		2(6.9)	7(24.1)		4(10.5)	2(5.3)		6(20.7)	5(17.2)	
Starchy foods	Yes	174(84.5)	184(89.3)	.164	75(82.4)	85(93.4)	.041	28(96.6)	28(96.6)	1.000	34(89.5)	35(92.1)	1.000	27(93.1)	28(96.6)	1.000
	No	32(15.5)	22(10.7)		16(17.6)	6(6.6)		1(3.4)	1(3.4)		4(10.5)	4(7.9)		2(6.9)	1(3.4)	
Fruits	Yes	178(86.8)	166(80.6)	.036	79(86.8)	76(83.5)	.508	24(82.8)	27(93.1)	.250	32(84.2)	31(81.6)	1.000	23(79.3)	24(82.8)	1.000
	No	27(13.2)	40(19.4)		12	15(16.5)		5(17.2)	2(6.9)		6(15.8)	7(18.4)		6(20.7)	5(17.2)	
Nuts	Yes	44(21.4)	35(17)	.243	19	18(19.8)	1.000	3(10.3)	3(10.3)	1.000	6(15.8)	6(15.8)	1.000	4(13.8)	6(20.7)	.727
	No	162(78.6)	171(83)		72	73(80.2)		26(89.7)	26(89.7)		32(84.2)	32(84.2)		25(86.2)	23(79.3)	
Vegetables	Yes	26(12.6)	17(8.3)	.163	14	4(4.4)	.031	5(17.2)	4(13.8)	1.000	4(10.5)	1(2.6)	.250	3(10.3)	3(10.3)	1.000
	No	180(87.4)	189(91.7)		77	87(95.6)		24(82.8)	25(86.2)		34(89.5)	37(97.4)		26(89.7)	26(89.7)	
Sugary and acidic drinks	Yes	26(12.6)	33(16)	.016	11	13(14.3)	.500	4(13.8)	6(20.7)	.500	5(13.2)	7(18.4)	.500	4(13.8)	5(17.2)	1.000
	No	180(87.4)	173(84)		80	78(85.7)		25(86.2)	23(79.3)		33(86.8)	31(81.6)		25(86.2)	24(82.8)	

Mc-Nemar test, **Bold font: P<0.05 level**
 BL: Before lockdown, DL: During lockdown

Table 3. Changes in dietary habits according to employment status of parents.

		Employment status of mother N (%)														
		Going to workplace			Flexible			Home office			Not working			Quit the job		
		BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P
TBF	More than 2 times a day	0	0		0	2 (4.2)		0	0		0	1 (0.4)		0	0	
	2 times a day	6	2	.001*	10	5	.081	11	6	.063*	29	7	.001†	4	0	.005†
	Once a day	25	11		20	14	†	7	10 (40)		133	75		11	7	
	(16.2) (5.4)		(20.8) (10.4)		(41.7) (29.2)		(28)			(50.6) (28.5)		(37.9) (24.1)				
	6	24		18	27		7	9		101	180		14	22		
	(16.2) (64.9)		(37.5) (56.3)		(28) (36)		(38.4) (68.4)		(48.3) (75.9)							
TBD	Less than 1 minutes	36	37		46	45		25	22 (88)		260	261		29	28	
	1-2 minutes	1	0	.317†	2	3	1.00*	0	3 (12)	.08†	3	2	1.00*	0	1	.317†
	More than 2 minutes	0	0		0	0		0	0		0	0		0	0	
	(97.3) (100)		(95.8) (93.8)		(4.2) (6.3)		(100)			(1.1) (0.8)		(100) (96.6)				
PS	Yes	1	0	.317†	3	3	1.00*	7	8	1.00*	6	4	.625*	0	1	.317†
	No	36	37		45	45		18	17 (68)		257	259		29	28	
	(2.7) (0)		(6.3) (6.3)		(28) (32)		(2.3) (1.5)		(100) (96.6)							
	(97.3) (100)		(93.8) (93.8)		(72) (68)		(97.7) (98.5)		(100) (96.6)							

		Employment status of father N (%)														
		Going to workplace			Flexible			Home office			Not working			Quit the job		
		BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P	BL	DL	P
TBF	More than 2 times a day	0	1 (0.5)		0	1 (1.1)		0	1 (3.4)		0	0		0	0	
	2 times a day	35	14	.001†	17	5	.001†	6	0	.001†	1	0	.001†	1	1	.002†
	Once a day	92	62		45	31		13	7		23	10		23	7	
	(44.7) (30.1)		(49.5) (34.1)		(44.8) (24.1)		(60.5) (26.3)		(60.5) (26.3)		(60.5) (26.3)		(60.5) (26.3)			
	79	129		29	54		10	21		14	28		14	30		
	(38.3) (62.6)		(31.9) (59.3)		(34.5) (72.4)		(36.8) (73.7)		(36.8) (73.7)		(36.8) (73.7)		(36.8) (73.7)			
TBD	Less than 1 minutes	205	201		88	89		27	27		38	38		38	38	
	1-2 minutes	1	5	.219*	3	2	1.000*	2	2	1.000*	0	0	1.000*	0	0	1.000*
	More than 2 minutes	0	0		0	0		0	0		0	0		0	0	
	(0.5) (2.4)		(3.3) (2.2)		(6.9) (6.9)		(0) (0)		(0) (0)		(0) (0)		(0) (0)			
PS	Yes	8	8	1.000*	8	8	1.000*	3	3	1.000*	1	1	1.000*	0	0	1.000*
	No	198	198		198	198		26	26		37	37		38	38	
	(3.9) (3.9)		(3.9) (3.9)		(10.3) (10.3)		(2.6) (2.6)		(100) (100)		(100) (100)		(100) (100)			
	(96.1) (96.1)		(96.1) (96.1)		(89.7) (89.7)		(97.4) (97.4)		(100) (100)							

†Mc-Nemar test, * Wilcoxon test, **Bold font: P<.05 level**
 TBF: Tooth brushing frequency, TBD: Tooth brushing duration, PS: Parental supervision

Table 5. Change of oral hygiene habits according to the employment status of the parents.

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