



Impact of Quarantine Time in COVID-19 Pandemic Lockdown on Parents and their Children

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Article info	Abstract
Original: 20 December 2020 Revised: 29 January 2021 Accepted: 2 March 2021 Published online: 20 June 2021	On 11 March, 2020, the World Health Organization (WHO) announced the COVID-19 pandemic. In order to respond COVID-19 threat on public health, different countries adopted various social distancing measures and/or locked down their communities completely. As a results of all these measures, global health crisis and other global crises have overlapped. The present cross-sectional quantitative study was aimed at determining the effect of COVID-19 lockdown on parents and their children in the Kurdistan region of Iraq. For this purpose, an online questionnaire-based survey was carried out using a constrictive tool. The study was conducted from the 1 st to the 18 th of September 2020. The online survey was participated by a total of 1,010 family members. According to the results, 69.5% of the participants were mothers, aged 30 to 39 years, 66.4% were college graduates, and 34.7% gained weight during the lockdown. It was also seen that getting infected, spending a lot of time with electronic devices, stress, and obesity risk have been referred to as the participants' main concerns.
Key Words: <i>COVID-19, quarantine, impact on children, lockdown, electronic devices</i>	

Introduction

One of the most widely used terms during COVID-19 pandemic was “quarantine” which is defined as enclosing someone or yourself in a place in order to prevent the transmission of a disease. In November 2019, the whole world was struggling hard to deal with the pandemic caused by the spread of the new coronavirus (COVID-19). All these efforts; however, did not result in finding a treatment or controlling COVID-19 transmission. Global experience proved quarantine and lockdown to be the only method of preventing or reducing the transmission of COVID-19 disease [1].

In spite of reducing the transmission of COVID-19 disease, quarantine has had some negative effects, such as spending more time with electronic devices like smart phones or physical problems like weight gain. Lockdown is another efficient method of reducing or preventing COVID-19 transmission. Lockdown refers to minimizing or restricting communication between people and their gathering in large groups. The efficiency of this method is because infected individuals will be restricted from being in touch with healthy people as a result of social distancing which has been proved to effectively reduce COVID-19 transmission [2]. Usefulness of social distancing is restricted to communities where disease has spread; however, when there is no certainty about the relationship between the infected individuals, and only those who are exposed to the disease are restricted, reduction or prevention of disease transmission will remarkably decrease through social distancing [3].

Quarantine has been reported to be an unpleasant experience because it causes boredom, confusion about the disease status, loss of rights, and separation from loved ones, all of which can have negative effects on the individuals' physical and mental status [4]. A prolonged quarantine can itself result in numerous psychological and physical problems. During the quarantine due to COVID-19 outbreak, individuals of

different ages have adopted new hobbies which are mostly based on modern technology. These hobbies range from eating meals delivered at door and socializing online to working from home. As a result, there has been a remarkable change in people's lifestyle, and they have started using modern technologies and the internet more than before. In addition to people's individual lives, education has undergone a remarkable alternation, such that most universities, institutes, and school started running online classes [5].

As a result of online education, children have more access to electronic devices and the internet, and they can search almost whatever they want on they want on the internet. Therefore, there has been a remarkable decrease in the age of using smart devices among children. Although this change can be useful if children search and have access to useful information, it can be quite misleading if they come across or browse inappropriate content. Therefore, children's online activities need to be monitored closely by their parents [6]. Since children cannot play outside during COVID-19 lockdown and quarantine, they spend more time playing online games and making new friends. Another negative effect of quarantine has been a remarkable decrease in individuals' physical activities due to closure of gyms, which has led to an increase in their weight. During the summer holiday, children also gain weight because they do not go to school and are less physically active [7]. Moreover, as a result of COVID-19 quarantine, there has been an elevation in the level of people's stress. Parents are also concerned about their own and their children's weight gain due to not being physically active [8]. The present study aimed to identify the effect of COVID-19 quarantine and lockdown on the parents and their children's in the Kurdistan region of Iraq.

Materials and Methods

Participants

After the schools had been locked down as a result of COVID-19 pandemic in the Kurdistan region of Iraq, the present cross-sectional quantitative survey was carried out from the 1st to the 18th September 2020. The survey in which 1,010 family members participated was conducted online.

Google Survey (www.google.com) was used to construct the questionnaire which was later shared with the potential participants through a link shared on social media (Facebook). The questionnaire link was shared along with an invitation. The first part of the questionnaire included a written consent form which required the participants to read about the reason for the research and asked them to show their agreement by pressing agree and proceeding to the next part of the questionnaire.

Measurement Tools

For the purpose of the current study, the questionnaire was translated into Kurdish accurately. It consisted of 4 sections; parents' socio-demographic information (6 items), dilatory information (7 items), children's demographic information (2 items), and habitual information (5 items). All sections of the questionnaire were constructed exactly based on the study's objectives, some modifications were made by the researcher.

The parents' demographic information socio-demographic section included issues like caregiver, age, job, education level, family type, and residential area, and the children's demographic characteristics section included gender and age. The parents' dilatory information part included family weight gain, number of meals, eating after 8 o'clock at night, eating healthy diets, psychological stress, and daily exercise, and the information on children's behavior included child sleep habit, child free time activities, child diet habit, child weight gain, and child exercise. Responding the questions only took 4 minutes because the participants needed to click the answer checkboxes.

Statistical Analysis

For statistical analysis, the collected data were first automatically registered in the Excel file of the survey, and they were later imported into JASP (version 14.0) for further analysis. Descriptive analysis was conducted through frequency and percentage. Chi-square test was used to test the relationships between categorical variables.

Results and discussion

Table 1. Frequency and percentage of the parents' demographic information

Demographic data		Frequency	Percentage
Parents	Mother	702	69.5
	Father	308	30.5
	Total	1010	100.0
Age group	20-29	150	14.9
	30-39	532	52.7
	40-49	264	26.1
	50-59	64	6.3
	Total	1010	100.0
Level of education	College or higher education	671	66.4
	Institute	159	15.7
	School	162	16.
	Illiterate	18	1.8
	Total	1010	100.0
Parents' job	Government employee	646	64.0
	Non-government employee	89	8.8
	Housewife	131	13.0
	Jobless	41	4.1
	Total	1010	100.0
Family type	Extended family	82	8.1
	Nuclear	928	91.9
	Total	1010	100.0
Residential area	Rural	943	93.4
	Urban	67	6.6
	Total	1010	100.0

According to the results presented in Table 1, most of the participants (69.5%) were mothers, most of them aged 30 to 39 years, 66.4% of them graduated from college, 64% were employed by the government, 91.9% had a nuclear family, and 93.4% lived in rural areas.

Table 2. Frequency and percentage of the parent's Dietary information

Dilatory habit		Frequency	Percentage
Family weight gain during the quarantine	Yes	441	43.7
	No	160	15.8
	Total	1010	100.0
Number of daily eating	Regular	409	40.5
	1-2 Meals	423	41.9
	3-4 Meals	572	56.6
	Total	1010	100.0
Eating after 8 o'clock at night	5-6 Meals	15	1.5
	No	733	72.6
	Total	1010	100.0
Eating healthy diet	Yes	277	27.4
	No	198	19.6
	Total	1010	100.0
Fast food	Yes	812	80.4
	No	207	20.5
	Total	1010	100.0
Psychological stress	No	608	60.2

	Yes	402	39.8
	Total	1010	100.0
	No	757	75.0
Daily exercise	Yes	253	25.0
	Total	1010	100.0

As shown in Table 2, 43.7% the family members gained weight during quarantine, 56.6% ate 3-4 meals every day, 72.6% did not eat after 8 o'clock at night, and 80.4% had a healthy diet. It was also seen that 79.5% of the respondents ate fast food, 60.2% had psychological stress, and 75% did not exercise daily.

Table 3. Frequency and percentage of the child demographic information

Child demographic information		Frequency	Percentage
Child gender	Male	546	54.1
	Female	464	45.9
	Total	1010	100.0
Child age group	6-9	646	64.0
	10-12	185	18.3
	13-15	111	11.0
	16-18	68	6.7
	Total	1010	100.0

Table 3 indicates that 54.1% of the children were male, and 64% of them belonged to the age group 6-9 years.

Table 4. Frequency and percentage of the child habit information

Child information		Frequency	Percentage
Child sleep habit	8-12 hours	804	79.6
	Less 8 hours	145	14.4
	Above 12 hours	61	6.0
	Total	1010	100.0
Child free time activities	Electronic device	478	47.3
	TV media	387	38.3
	Reading, writing, and drawing	51	5.0
	Playing and physical activity	37	3.7
	Family interaction	57	5.6
	Total	1010	100.0
Child diet habit	Fast food	390	38.6
	Home diet	620	61.4
	Total	1010	100.0
Child weight gain	Yes	294	29.1
	No	91	9.0
	Regular	625	61.9
	Total	1010	100.0
Child doing exercise	Yes	634	62.8
	No	376	37.2
	Total	1010	100.0

The results presented in Table 4 reveal that 79.6% of the children slept 6 to 12 hours, 47.3% of them spend their free time with electronic devices, 61.4% of them ate home-made food, 61.9% had a regular weight, and 62.8% did daily exercise.

Table 5. Associations between family weight gain and demographic information

Variable	Category	Weight gain			X ²	P value
		Yes	No	Regular		
Caregiver	Mother	116	54	135	1.648	< 0.439
	Father	293	106	306		
Age group	20-29	75	33	42	54.130	< .001
	30-39	224	53	255		
	40-49	98	62	104		
	50-59	12	12	40		
Level of education	College or higher education	281	102	288	25.150	< .001
	Institute	76	28	55		
	School	52	24	86		
	Illiterate	0	6	12		
Family job	Government employee	276	93		10.890	< 0.092
	Non-government employee	39	19	277		
	Housewife	60	27	31		
	Jobless	34	21	85		
	Self-employed	276	93	48		

Table 5 indicated that family weight gain has significant associations with age group (p<0.001) and level of education (p<0.001). However, it did not have a significant association with family job scores (p<0.092) or caregiver (p<0.39).

Table 6. Associations between child weight gain and gender age group

Variable	Category	Weight gain			X ²	P-value
		Yes	No	Regular		
Gender	Male	178	47	321	7.025	0.030
	Female	116	44	304		
Age group	6-9	198	59	389	19.894	0.003
	10-12	22	11	35		
	13-15	47	6	132		
	16-18	27	15	69		

According to Table 6, child weight gain had significant associations with age group (p=0.003) and gender (p=0.030).

Table 7. Associations between children free time activities and gender and age group

Variable	Category	Children's free time activities					X ²	P value
		Electronic devices	TV media	Reading, writing and drawing	Playing and physical activity	Family interaction		
Gender	Male	295	175	22	29	25	37.107	< .001
	Female	183	212	29	8	32		
Age group	6-9	286	266	57	21	37	73.732	< .001
	10-12	18	36	6	6	8		
	13-15	112	64	9	6	0		
	16-18	62	21	16	4	12		

As shown in Table 7, children's free time activities had significant associations with their gender (p<0.001) and age group (p<0.001).

According to the results of the present study, most of the families who stayed at home for a long time in order to protect themselves against COVID-19 pandemic gained weight, which can be attributed to the fact that those families spend more time together, prepared meals in their free time, and ate more meals than before [9]. As a result of COVID-19 disease, individuals have become more aware of their diet, and most of them have started eating healthier diets which improve their immune system particularly against coronavirus [10,11].

The results showed that most of the participants did not do any daily exercise due to the closure of the gyms, sport centers, and swimming pools during the COVID-19 quarantine. It was seen that most of the children slept more than before because they did not go to school and had very few responsibilities. Moreover, they spent more time playing and using electronic devices. It has been shown that there has been an increase in using electronic devices as a result of the COVID-19 quarantine and lockdown [12]. Evidence has also shown that the children's physical, social, and mental wellbeing can be significantly affected by the using electronic devices. In order to protect their children, parents keep them at home which is too small to provide the children with sufficient space to play or do physical activities, which in turn leads to their weight gain [13].

Conclusion

As a result of COVID-19 disease, the world has been rattled, and children and families all over the world were negatively affected. Quarantine due to pandemic and epidemic infectious diseases like COVID-19 or MERS-CoV can cause family members gain weight because they have to stay at home and remain inactive for a long period of time. Such individuals are also at high risk of obesity and stress. They also spend lots of time using electronic devices. In this regard, it is highly significant to optimize family members' compliance with their stay at home and prevention of outdoor physical activity during the infectious disease outbreak in order to make sure about their safety, reduce the possibility of developing diseases, and ultimately alleviate their overweight and psychological stress.

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Conflict of interest

Authors declare that there is no conflict of interest in this study.

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