

Original Article

FOOD CONSUMPTION PATTERN AMONG CHILDREN IN AN ENGLISH MEDIUM SCHOOL DURING COVID-19

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ABSTRACT

Background: Children never faced a pandemic situation. For this situation children's lives are being affected, including their daily routine. This situation could have influenced both bad or good habit. One of the most alarming issue was their food consumption pattern during lockdown at home.

Objective: To assess an English medium school children's food consumption habit during COVID-19 lockdown.

Materials and methods: This cross-sectional study was carried out about one of the English medium school children's eating habits during the COVID-19 lockdown in Bangladesh. Online questionnaire was developed and delivered to the care giver of the children's. Total 130 caregivers and 223 children were selected purposively. The study period was 1st October 2020 to February 2021.

Results: Distribution of the children according to the sex, female (70.4%) were more than male and ten to eleven years' children (40.8%) were more. Educational background of caregivers found, graduation (76.2%), only 48.5% care givers sometimes did physical activity, monthly family income more the two lacs (66.2%), homemaker (71.6%) and 77.7% of them cooked food with the help of housemaid. Chocolate, milk product, meat and fast food intake is alarmingly high, found in seven days' food intake chart. 60% children take extra food two times in a day, 50% of that food was homemade and online ordered. Foods were ordered 2-3 times per week by 44.6% caregivers and mostly ordered items were fast foods (66.2%). 63.1% children were found overweight. There was significant association between frequent online food order and change body shape of the child ($p=.04$) and monthly income and how many time children's intake extra food in a day ($p=.01$).

Conclusion: Schools were run in online basis. Parents were responsible for their children food intake throughout the whole day. It was challenging for the parents.

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Key words: COVID-19, Lockdown, Food consumption, Children.

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INTRODUCTION

The Coronavirus disease 2019 (COVID-19) is an infectious disease. It's caused severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case of this virus was identified in Wuhan, China, in December 2019 [1]. The disease has since spread all over the world, leading to an ongoing pandemic [2].

The first three known cases of COVID-19 were reported on 8 March 2020 in Bangladesh and first fully lockdown declared by the Bangladeshi government from 23 March to 30 May (then lockdown period was extended), 2020 and prepared some necessary steps to spread awareness to keep this syndrome away from

them [3]. Bangladesh was the second most affected country in South Asia, after India [4]

All school were closed during this period. Working from home was newly concept forced to maintain by everyone, except for some specific professional like-working in hospital, in food shops etc. So, people adapt their everyday behaviors to the new pattern, including their food-related behaviors [5] Children were most vulnerable at this situation. They could not go to outside to play and school class was online basis. So, they were upset mentally and physically. Eating of variety food was one of recreation for them. It has led the children into a sedentary lifestyle and physical inactivity which may increase the incidence of obesity.

The main education system is divided into three levels in our country, like- 1. Primary level (class 1-8), 2. Secondary level (class 9-12), 3. Tertiary level. Students can choose their education in English or Bangla. Private schools tend to make use of English-based study media while government-sponsored schools use Bangla and English version [6]. Since the 1980s English medium schools, which are all privately

funded, have been mushrooming in Bangladesh, especially in Dhaka [7]. The students of such schools follow the British curriculum and syllabus directly. People of our country who possess financial capacity, teach their children in English medium school [8].

MATERIALS AND METHODS

This cross-sectional study was carried out in an English medium school to assess eating habits of the children during the COVID-19 lockdown in Bangladesh. For the pandemic situation online questioners were developed and delivered to the caregivers of the children by use Messenger, WhatsApp, E-mail. Total 130 caregivers of 223 children were selected in the study purposively. The study period was 1st October 2020 to February 2021. Informed consent was given by the caregiver as respondents and assent form the children. For data analysis SPSS 23 version was used.

RESULTS

Table 1. Distributions of the care giver of respondents according to their educational background

Category	Frequency	Percentages	Mean ± SD
Educational qualification of care givers:			
H.S.C	14	10.8	
Graduation	99	76.2	
Master and above	17	13.1	
Total	130	100	
Monthly Family Income:			
> One lacks	15	11.5	
> Two lacks	86	66.2	2.10 ± 0.57
Three lacks and above	29	22.3	
Total	130	100	
Cooking at home:			
Own	29	22.3	
With help of maid	101	77.7	
Total	130	100	
Daily Physical activity			
Yes	29	22.3	
No	38	29.2	
Sometimes	63	48.5	

H.S.C passed were 10.8%, graduation 76.2%, masters and above 13.1%. Monthly family incomes were more than two lacks taka (66.2%), more than three lacks and above taka 22.3% and more than one lacks taka 11.5%, Mean \pm SD was 2.10 ± 0.57 . 77.7% cooked with the

help of the maid and only 22.3% cooked food by own. sometimes physical activities done by 48.5%, only 22.3% did always and 29.2% not did. 71.5% care givers were homemaker, 13% work on outside and 15.3% work from home (**Fig-1**).

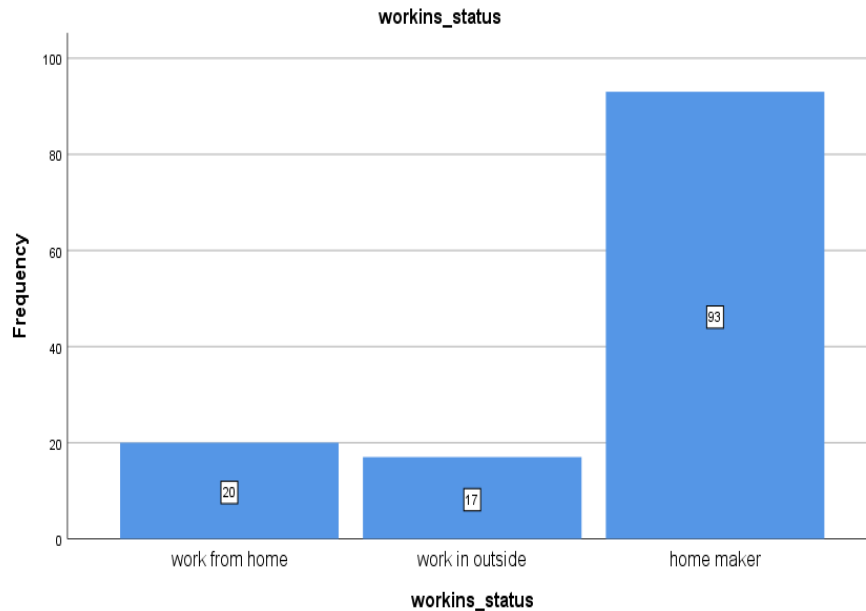


Figure 1. Working status of the respondents

Among 223 children, 70.4% were female and 29.6% male (**Fig-2**)

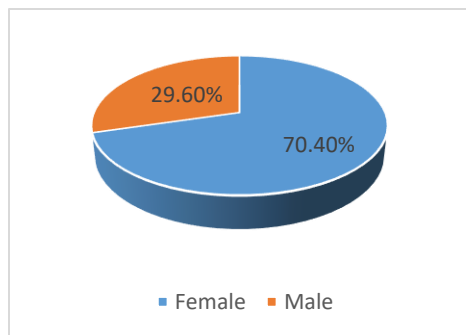


Figure 2. Sex distribution of the children

Age group eight to nine were 23.8%, nine to ten were 35.4%, ten to eleven 40.8% (**Fig-3**).

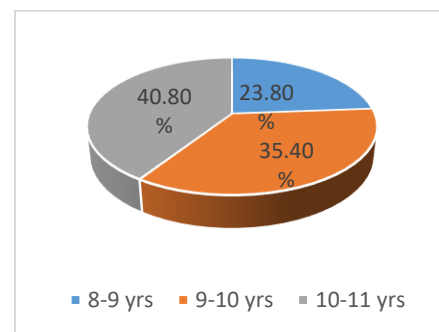


Figure 3. Distribution of age groups of the children

Among the children, 115 respondents took milk and milk products, 101 respondents consumed chocolate, 78 respondents took egg and related snakes, 86 respondents took fish, four to six times in a week. Vegetable intake was alarming (85 took <1 time), meat (132), all types of fast food (135), and fruits (133) intake was more than seven times in a week (**Table 2**).

Table 2. Frequency of consumption different types of foods in a week

Food name	<1 time	1-3 times	4-6 times	7and more
Milk and milk	31	63	115	21
Chocolate or chocolate	33	81	101	8
Egg and with egg snakes	43	55	78	47
Fish	75	41	86	21
Meat	8	25	58	132
All types of fast food	4	39	45	135
Vegetables	85	56	69	13
Fruits	21	28	41	133

60% children were taking extra food for two times in a day. 43.1% foods were online ordered and only 6.9% were homemade and 50% including both. 44.6% were ordered food from online two to three times per week. 66.2% online ordered were fast food, 22.3% lunch and 11.5% ordered dinner. 63.1% children were found in over weight during this lockdown period (**Table-4**).

There was Significant association between frequent online food order and change body shape of the children ($X^2 = 6.12$, $df = 2$, $p\text{-value} = .04$) and Significant association found between monthly income and children’s intake extra food ($X^2 = 5.49$, $df = 1$, $p\text{-value} = .01$) (**Table-4**).

Table 3. Serving extra foods by the caregivers in a day

Category	Frequency	Percentage
One times	39	30
Two times	78	60
Frequently	13	10
Total	130	100
Food made / ordered by:		
Home made	9	6.9
Online order	56	43.1
Both	65	50
Total	130	100
Frequency of online order food:		
1 to 2 times per week	56	43.1
2 to 3 times per week	58	44.6
Frequently	16	12.3
Total	130	100
Ordered food type:		
Fast food	86	66.2
Lunch	29	22.3

Dinner	15	11.5
Changes body shape of the child:		
Over weight	82	63.1
No changes	47	36.2
Missing	1	0.8

Table 4. Association between monthly income and children intake extra food

Extra food	Above 1 lack Tk f(%)	Above 2 lack Tk. f(%)	Above 3 lack Tk. f(%)	P-value
Home made	2 (22.2)	6 (66.7)	1 (11.1)	X ² =5.49 df= 1 P-value=.01
Online order	8 (14.3)	35 (62.)	13 (23.2)	
Both	5 (7.7)	45 (69.2)	15 (23.1)	

DISCUSSION

Distributions of the care giver of respondents according to their educational background, H.S.C passed were 10.8%, graduation 76.2%, masters and above 13.1%. Monthly family incomes were more than two lacks taka (66.2%), more than three lacks and above taka 22.3% and more than one lacks taka 11.5%, Mean ± SD was 2.10 ± 0.57. 77.7% cooked with the help of the maid and only 22.3% cooked food by own. sometimes physical activities done by 48.5%, only 22.3% did always and 29.2% not did. 71.5% care givers were homemaker, 13% work on outside and 15.3% work from home another data showed that female labor force participation rate was 36.37% in 2019 in Bangladesh⁹. From 223 children ,70.4% were female and 29.6% male, age group eight to nine were 23.8%, nine to ten were 35.4%, ten to eleven 40.8%. 115 respondents were intake milk and milk products, 101 respondents were taking chocolate, 78 respondents were taking egg and related snakes, 86 respondents were taking fish, four to six times in a week. Vegetable intake was alarming and meat (132), all types of fast food (135), and fruit (133) intake was more than seven times in a week. Another study clearly demonstrates that quarantine may pose a significant dietary risk, particularly for overweight¹⁰. 60% children were taking extra food for two times in a day. 43.1% foods were online ordered where another study showed that food deliver business is now a better understanding by consumers about the developments of online e- commerce. Easy and secure option for online payments of services, disposable income on the rise. And work from home decreasing time for people to invest in making food themselves. All this is even more prominent in developed countries¹¹.Only 6.9%

were homemade and 50% including both. 44.6% were ordered food from online two to three times per week. 66.2% online ordered were fast food, 22.3% lunch and 11.5% ordered dinner another study showed that significantly increased in the categories of ready-made meals¹². 63.1% children were found in over weight during this lockdown period. There was Significant association between frequent online food order and change body shape of children (X² =6.12, df= 2, p-value= .04). One of the study showed that consumption of takeaway food and obesity is strongly associated (P<0.05)¹³. In this study another significant association found between monthly income and children’s intake extra food (X² =5.49, df= 1, p-value=.01).

Although the findings of this study can’t be generalize but still it represents the similar findings of other studies which were conducted in COVID-19 period. Develop consciousness to the care giver of children regarding healthy food habit is very important.

CONCLUSION

All over the world, due to the spread of coronavirus disease (COVID-19), children are affected by physically and mentally due to quarantine and nationwide school closures. They have nothing to do all the day. So, eating is one of the recreation for them. In this situation over weight for children is a common problem. Parents should encourage to their children to avoid junk food. Children can do the house hold work to maintain their physical activities. Respondent of the study was too small in number. On the other hand, the caregivers could have modified or changed their answer. So, further studies are needed to investigate the long term effects of food consumption behavior.

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