



ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2021; SP-10(8): 457-460  
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Received: 19-06-2021  
Accepted: 21-07-2021

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## Covid 19 home confinement effects on consumer's food consumption and eating habits

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### Abstract

The pandemic COVID-19 continues to threaten human life in all over the world. This pandemic changed the scenario of life in every way such as finance, health and even the food habits. This paper investigated the home confinement effects on consumer's food consumption and eating habits during pandemic. In line with the recommendations for social distancing under pandemic conditions, the empirical data was collected through online survey. A sample size of 30 respondents was randomly selected from Hisar district in Haryana state. An online questionnaire was made and circulated through local social media (g-mail and what's up) among the respondents during lockdown period starts from April to May 2021. The results revealed that maximum number of respondents (46.6%) belonged to 31-40 years of age group, belonging to BC category (46.6%), were graduate (40.0%) with main occupation as government service (56.6%). More than half of the respondents (56.6%) supermarket was the most preferred place of purchase of various food items from different food categories. Huge majority of the respondents (90.0%) prefer to consume home made products with rank I. Due to home confinement, majority of the respondents change their eating habits and follow practices in adoption of cooking and preparing food scored I rank. In stocking of food items, most of the respondents (80.0%) stock only non-perishable products such as cereal and cereal products and spices and condiments followed by other food categories. To ensure the safety of itself and others from Covid-19, take some simple precautions like social distancing, wearing a mask, keeping rooms well ventilated, avoiding crowds, cleaning your hands and coughing into a bent elbow or tissue.

**Keywords:** consumers, COVID-19, data, pandemic, respondents

### Introduction

Coronavirus disease 2019 (COVID-19) continues to threaten human life in all over the world. The world is currently experiencing the pandemic of coronavirus (CoV) in late 2019. First, the corona virus infection began in China. It has been renamed CoVID-19 by the World Health Organization (WHO) on 11<sup>th</sup>, February 2020 and called 2019-nCoV. As for the virus itself (2019-nCoV), the International Committee on Taxonomy of viruses has named it SARS-CoV i.e. severe acute respiratory syndrome coronavirus 2. China was the first country that has made unprecedented efforts in identifying and quarantining close contacts of confirmed patients to control the infection and cut off transmission routes. This epidemic began with animal-to-human infection, and the direct cause of death is generally due to ensuing severe a typical pneumonia. No specific treatment for COVID-19 is currently available. Vaccination studies continue in many countries of the world. In past, fighting against pandemic diseases, increasing awareness, social distancing, travel restrictions, protective clothing, treatment, and perhaps most importantly vaccination are some of different methods have been tried and still being tried to combat pandemic diseases. In addition to these, one of the most effective method is used i.e. quarantine application. It is a public health measure that can be implemented on voluntary basis or can be legally enforced by authorities and applied at an individual, group, or community level. As disease spreads, more countries followed the same precautions and practices as followed by China in all over the world. Quarantine is a difficult experience when someone is separated from their loved ones. A study by Scarmozzino and Visioli (2020) <sup>[5]</sup> was conducted on 1,939 participants and reported that responders have been eating more during home confinement and 19.5% gained weight.

The impact of COVID-19 pandemic is immediately and effortlessly felt, due to the widespread lockdown and social distancing measures globally. Individuals were asked to stay home and avoid contact with other people. Consumers need for commodities and manufactured products has decreased and in contrast, medical supplies has significantly increased. COVID-19 pandemic influence consumer's food purchase behavior and consumption behaviours and

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eating habits. To minimize the risk of being infected by COVID-19, people start increasing their use of delivery services, purchasing more packaged food, which is seen as being more hygienic and buying food with a longer shelf-life in order to limit their shopping trips and eating more healthy foods. Therefore, the main aim of our research was to investigate about the home confinement effects on consumer's food consumption and eating habits during this pandemic (COVID-19). The study was conducted only in Hisar during lockdown period starts from April to May 2021.

### Methodology

The sample size of 30 respondents was randomly selected from Hisar district in Haryana state. In line with the recommendations for social distancing under pandemic conditions, the empirical data was collected through online survey. The questionnaire was circulated through local social media (g-mail and what's up). The survey was conducted on different peoples and of different age groups. The survey asked a number of questions related to personal and demographic profile of the respondents, place of purchase for different food products, food consumption preferences given by the respondents during pandemic, stocking of food products and home confinement food related activities' impact on eating habits of the consumers to minimize the risk of being infected by COVID-19. At the beginning of the study, each participant was informed of the study objective and then respond accordingly. The questions were very easy and clear so that respondents can understand and answer them properly. Data were collected personally by the researcher. Keeping in view, the requirement of the study, frequency, percentage, rank and weighted mean score was calculated for analysis and interpretation of data which recorded in this research paper.

### Results and Discussion

The results of the cross-sectional survey reveal that place of

purchase, food consumption preferences, eating habits have been widely affected by the COVID-19 pandemic. We first introduce the personal and demographic profile of the survey participants then analyze the effects of the pandemic on place of purchase, food consumption preferences and home confinement food related activities' impact on eating habits of the consumers. The results obtained on various aspects are described under following heads:

#### Personal and demographic profile of the respondents

The data reported in Table 1 indicates that nearly half of the respondents (46.6%) belonged to 31-40 years of age followed by age group in 20-30 (33.3%) and only 20.0% were in 41-50 years (20.0%) of age group. Majority of respondents, 63.3% were males and 36.6% were females. Among the respondents, 80.0% were married and 20% were unmarried. About the educational level of the respondents, 40.0% were graduate followed by high school (23.3%), post graduate (20.0%) and matric (16.6%). About 46.6% of the respondents were belonging to BC category, 33.3% to SC category and only 20.0% belongs to general category. Data regarding distribution of the respondents on the basis of family type showed that more than half of the respondents (56.6%) were living in nuclear families followed by joint families (43.3%). Also, more than half (56.6%) of the respondents were having small size families of one to four members followed by medium sized families (40.0%) of five to seven members and only 3.30% were above seven members in their families. Data regarding respondent's occupation depicts that majority (56.6%) of the respondents were in government service followed by those engaged in business (23.3%) and farming (20.0%). As expected, most of the respondents were into good paying jobs with 53.3% of them having monthly income in the range of above Rs.40,000, 30.0% earn Rs.20,000-40,000 per month and 16.6% have monthly income upto Rs.10,000-20,000 respectively.

**Table 1:** Personal and demographic profile of the respondents (N=30)

Sr. No.	Variables	Categories	Frequency (F)	Percentage (%)
1.	Age (in years)	20-30	10	33.3
		31-40	14	46.6
		41-50	6	20.0
2.	Gender	Male	19	63.3
		Female	11	36.6
3.	Marital Status	Unmarried	6	20.0
		Married	24	80.0
4.	Respondent Education	Matric	5	16.6
		High School	7	23.3
		Graduate	12	40.0
		Post Graduate	6	20.0
5.	Caste	General	6	20.0
		BC	14	46.6
		SC	10	33.3
6.	Family Type	Nuclear	17	56.6
		Joint	13	43.3
7.	Family Size	Small (1-4)	17	56.6
		Medium(5-7)	12	40.0
		Large (above 7)	1	3.3
<b>Socio economic variables</b>				
8.	Respondent Occupation	Farming	6	20.0
		Business	7	23.3
		Service	17	56.6
9.	Monthly Family Income (in Rs.)	Upto10,000-20,000	5	16.6
		20,000-40,000	9	30.0
		Above 40,000	16	53.3

### Place to purchase of following food products during Covid-19

Regarding place of purchase, data reveals that, supermarket was the most preferred place of purchase of various food items from different food categories by majority of the respondents like canned foods (56.6%) followed by cereals and cereal products, pulses, nuts and oil seeds, meat and poultry products (53.3%), packaged frozen foods (50.0%) and beverages (46.6%). And instant foods purchased from near by market (50.0%) followed by both fruits and leafy vegetables

and roots and tubers purchased from vendor/street hawkers (46.6%) respectively. And only 36.6 percent of the respondents preferred to purchase canned foods through online order. The similar results were observed by Di Renzo *et al.* (2020) <sup>[1]</sup> who revealed that most of the population purchases food at the supermarket (75.8%), 26.0% at the grocery shops, 14.8% at farmers, organic or local markets or using Solidal Purchasing Groups, and 9.0% uses online delivery.

**Table 2:** Place to purchase of following food products during Covid-19

Sr. No.	Food Items	Nearby Market F (%)	Vendor/Street Hawkers F (%)	Supermarket F (%)	Online order F (%)
1.	Fruits and Leafy Vegetables	10 (33.3)	14 (46.6)	6 (20.0)	3 (10.0)
2.	Roots and Tubers	10 (33.3)	14 (46.6)	6 (20.0)	-
3.	Cereals and its Products	11 (36.6)	-	16 (53.3)	3 (10.0)
4.	Pulses	11 (36.6)	-	16 (53.3)	3 (10.0)
5.	Nuts and Oilseeds	11 (36.6)	-	16 (53.3)	3 (10.0)
6.	Packaged frozen foods	9 (30.0)	-	15 (50.0)	6 (20.0)
7.	Instant foods	15 (50.0)	-	13 (43.3)	2 (6.6)
8.	Canned foods	2 (6.6)	-	17 (56.6)	11 (36.6)
9.	Meat and Poultry products	9 (30.0)	-	16 (53.3)	5 (16.6)
10.	Beverages	12 (40.0)	-	14 (46.6)	4 (13.3)

(Multiple responses were recorded, and hence the percentage exceeds 100)

### Food consumption preferences given by the respondents during pandemic

As perusal of Table 3 elucidates that maximum number of respondents (90.0%) prefer to consume home made products with rank I, 86.0% preferred fresh vegetables with rank II, 83.3% preferred both cereal and cereal products and pulses with rank III, 80.0% preferred fruits with rank IV, 76.6% preferred meat and poultry products with rank V, 73.3% preferred nuts and oilseeds with rank VI, 30.0% preferred packaged frozen foods with rank VII. And least number of respondents (26.6%) preferred beverages which got rank VIII.

Di Renzo *et al.* (2020) <sup>[1]</sup> in his study highlights that variation in food intake during the COVID-19 emergency. Data show an increase of homemade recipes (e.g. sweets, pizza and bread), cereals, legumes, white meat and hot beverages consumption, and a decrease of fresh fish, packaging sweets and baked products, delivery food and alcoholics intake. Laguna *et al.* (2020) <sup>[4]</sup> also showed that products purchased with higher frequency were pasta and vegetables (health motivations), others were purchased to improve their mood (nuts, cheese, and chocolates).

**Table 3:** Food consumption preferences given by the respondents during pandemic

Sr. No.	Food Items	Frequency (%)	Rank
1.	Fruits	24(80.0)	IV
2.	Fresh Vegetables	26(86.0)	II
3.	Nuts and Oilseeds	22(73.3)	VI
4.	Cereals and its Products	25(83.3)	III
5.	Home made products	27(90.0)	I
6.	Packaged frozen foods	9(30.0)	VII
7.	Pulses	25(83.3)	III
8.	Meat and Poultry products	23(76.6)	V
9.	Beverages	8(26.6)	VIII

(Multiple responses were recorded, and hence the percentage exceeds 100)

### Home confinement food related activities' impact on eating habits of the consumers

The findings in table 4 indicated that due to home confinement, majority of the respondents change their eating habits. They follow practices in adoption of cooking and preparing food scored rank I with mean score (2.93), eating at home is rank II with mean score (2.90), make easy meals (healthy snacks and instant foods) is rank III with mean score (2.40), fast food delivery order is rank IV with mean score

(1.13) and eating out (restaurants and cafeteria) is rank V with mean score(1.00). Hassen *et al.* (2020) <sup>[2]</sup> study on impact of COVID-19 on food behavior and consumption in Qatar showed that majority (54.5%) of the respondents are spending a lot of time cooking, 42.90% are eating more with family members, 49.20% are cooking and preparing food much more frequently. In addition, 29.3 percent of the respondents indicated that they ordered much less food online from a full-service or fast food restaurant or by a delivery application.

**Table 4:** Home confinement food related activities' impact on eating habits of the consumers

Sr. No.	Food related activities	Always (3)	Sometimes (2)	Never (1)	Weighted Mean score	Rank
1	Cooking and Preparing food	28	2	-	2.93	I
2	Eating at home	27	3	-	2.90	II
3	Fast food delivery order	-	4	26	1.13	IV
4	Eating out (Restaurants and cafeteria)	-	0	30	1.00	V
5	Make easy meals (Healthy snacks and Instant foods)	12	18	-	2.40	III

### Stocking of food items by the respondents during pandemic situation

Data presented in table 5 highlights the results about percentage of stocking of food items by the respondents during pandemic situation. It is evident from the results that majority of the respondents (93.3%) did not stock both fruits and leafy vegetables and roots and tubers followed by meat and poultry products (76.6%), beverages (66.6%) and sweets and sweetening agents (60.0%) unnecessarily. They believed that food items and other necessities will easily available to them despite of the lock down without much difficulty, so

they did not stock them unnecessarily. Most of the respondents (80.0%) stock only non-perishable products such as cereal and cereal products, spices and condiments followed by pulses (73.3%), nuts and oilseeds (66.6%), fats and edible oils (66.6%), sweets and sweetening agents (40.0%), meat and poultry products (23.3%) respectively. Hassen *et al.* (2021) <sup>[3]</sup> also indicated that the most of the respondents stocked items during the COVID-19 pandemic are non-perishable products such as cereals products (41.25%), sugar (21.67%), canned food (20.66%) and meat and meat products (19.81%).

**Table 5:** Stocking of food items by the respondents during pandemic situation

Sr. No.	Food items	Yes	No
1	Cereals and its Products	24 (80.0)	6 (20.0)
2	Pulses	22 (73.3)	8 (26.6)
3	Spices and Condiments	24 (80.0)	6 (20.0)
4	Fruits and Leafy Vegetables	2 (6.6)	28 (93.3)
5	Roots and Tubers	2 (6.6)	28 (93.3)
6	Nuts and Oilseeds	20 (66.6)	10 (33.3)
7	Fats and Edible oils	20 (66.6)	10 (33.3)
8	Beverages	10 (33.3)	20 (66.6)
9	Sweets and Sweetening agents	12 (40.0)	18 (60.0)
10	Meat and poultry products	7 (23.3)	23 (76.6)

(Multiple responses were recorded, and hence the percentage exceeds 100)

### Conclusions

Covid-19 has some positive and negative effects which directly affected the consumers. The results reveal that place of purchase, food consumption preferences, eating habits and stocking of food items have been widely affected by the pandemic. More than half of the respondents (56.6%) supermarket was the most preferred place of purchase of various food items from different food categories. Huge majority of the respondents (90.0%) prefer to consume home made products with rank I. Due to home confinement, majority of the respondents change their eating habits and follow practices in adoption of cooking and preparing food scored I rank. In stocking of food items, most of the respondents (80.0%) stock only non-perishable products such as cereal and cereal products and spices and condiments followed by other food categories. Therefore, it is important to generate future large scale studies that analyzed Covid -19 home confinement effects on consumer's food consumption and eating habits to encourage the adoption of healthy diets among respondents. Understanding the present consumer's behaviour during Covid -19 will help public health authorities to reshape future policies on consumer's nutritional recommendations, when new pandemic will arrive and lockdown policies implemented.

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