The History of Having Some Drink and its Association with COVID-19 Symptoms of individuals having recovered

Ola T. Sahloul*

*Faculty of Specific Education, Damietta University.

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The History of Having Some Drink and its Association with COVID-19 Symptoms of individuals having recovered

التاريخ الغذائي لاستهلاك بعض المشروبات وعلاقته بأعراض الاصابة بفيرس كورونا للأفراد المتعافين

Ola T. Sahloul*

*Faculty of Specific Education, Damietta University.

olats@du.edu.eg

Abstract

Several studies have been conducted about using drinks to boost immune system function. But there wasn't any study talking about its relationship with COVID-19. So, this study aimed to identify associations between the history of drinking some drinks and the symptoms of individuals having recovered from COVID-19.This study involved participants (n = 346) individuals who had recovered from COVID-19; "212 women and 134 men" aged 20 to 65 years. Their data and answers were collected in an electronic questionnaire to investigate the relationship between their history of some drinks and COVID-19 symptoms. Overall, among recovered individuals, most of them have moderate symptoms of (fever, cough, nasal congestion & runny nose, sore throat, diarrhea, and shortness of breath), but have severe symptoms of (body pain and loss of smell or taste). There was a significant correlation between fever, diarrhea, and shortness of breath occurrences and milk consumed, while there was a significant correlation between the occurrence of nasal congestion & runny nose, sore throat symptoms and tea consumption. Additionally, there was a significant correlation between the occurrence of loss of smell or taste symptoms and coffee consumption. In

conclusions: this study sheds light on the global problem of "diet habits before the pandemic and its consequences" and the role of diet and nutrition in addressing the consequences of the COVID-19 pandemic.

Keywords: injury symptoms, coronavirus, drinks and immunity.

Introduction

A coronavirus infection has appeared since 2019 in Wuhan, China. It is also known as COVID-19, and it causes respiratory illness; soon it spreads worldwide **(Du *et al*., 2020)**. To date, COVID-19 is still spreading, and new variants are emerging. **(Dyer ,2021)**. It is very contagious and became a pandemic in March 2020 **(Yang *et al*., 2020)**. Cough, fever, diarrhea, chest pain, fatigue, body aches, sore throat, rhinorrhea, tachypnea, and dyspnea are all symptoms of a coronavirus infection **(Li *et al*., 2020)**. Infection can be predicted by a loss of smell and taste in addition to other symptoms **(Lechien *et al*., 2020, and Menni *et al*., 2020)**. Most patients experienced mild symptoms of fever, dyspnea, myalgia, cough, and fatigue. On the one hand, patients with severe symptoms of respiratory syndromes and severe cardiac and renal dysfunction can lead to death **(Wu *et al*., 2020, and Wang *et al*., 2020).** According to the World Health Organization (WHO), COVID-19 is responsible for having spread in 223 countries with more than 472 million cases and more than 6 million deaths globally as of March of 2022 **(Cascella *et al*., 2022)**. Notably, many individuals worldwide have been affected by the COVID-19 pandemic in different ways. In this regard, infection and mortality had high rates in countries like the USA, France, and Spain, but low infection and mortality rates in countries like New Zealand **(Dong & Gardner., 2020, and Salje *et al*., 2020)**. COVID–19 infections have been detected in Egypt since February 14, 2020 **(Health, 2020)**. COVID-19 infection risk affects individuals of all ages. Individuals over the age of 60 and suffering from one of these symptoms ("obesity, chronic kidney disease, diabetes, chronic lung disease, cardiovascular disease,

smoking, cancer, etc.) are at a higher risk of severe COVID-19 infection **(Cascella *et al*., 2022)**.

Notably, innate immunity is considered the first line of defense against viral infections **(Chowdhury& Barooah., 2020)**. In this regard, micronutrients improve defense function by modulating immune regulation **(Dizdar *et al*., 2016)**. (14). Tea is the most widely consumed beverage on the planet. It also contains free radical scavengers, polyphenols, vitamins, functional ability, and micronutrients ***(Chowdhury& Barooah.*, 2020)**. Coffee is also considered one of the most worldwide drinks consumed since ancient times. It has been consumed previously due to its distinctive taste and the stimulating effect of caffeine **(Açıkalın & Sanlier., 2021)**. It also contains caffeine, diterpenes, and chlorogenic acid. Therefore, it has antioxidant, antifibrotic, anti-inflammatory, and antica rcinogenic properties **(Carvalho& Cotrim., 2020).** On the one hand, milk is considered an important drink due to its being easy to digest and relatively cheap in comparison with any other food. It has nutritional value and increases the body's immunity to diseases **(El-Latif, 2012)**. Regarding fizzy drinks, such as Pepsi, Coca-Cola, Sprite, Fanta, and others, are the primary sources of sugar in the diet **(Reedy& Krebs., 2010, and *Garnett et al*., 2020)**. Therefore, increasing consumption will increase the risk of some symptoms such as obesity, early puberty, dental caries, aggressive behaviors, diabetes, and other chronic diseases **(Keller& Bucher., 2015, Wilder et al., 2016, Carwile et al., 2015 and Ziegler & Temple., 2015).**

Therefore, this work aims to get to know the association between the history of drinking some drinks and the symptoms of individuals having recovered from COVID-19.

Subjects and Methods

Study Design and Participants

This study consisted of 346 random individuals who had recovered from COVID-19, "212 women and 134 men" aged 20 to 65 years, from Egypt (Damietta Governorate). On the one hand, individuals consisted of 131 from rural areas and 215 from urban areas. Notably, the injury persisted for 14 to 21 days for most people (52.3% of subjects).

By using an electronic questionnaire, all participants consented to share their data. Regarding verifying the test's validity, a group of members from the faculty of specific education at Damietta University made sure of it. The test stability coefficient was calculated before using the data. The average time spent filling out the survey was 10 minutes.

The Study Collected

1) Personal information (gender, location, age, and illness duration)

2) Answers to a structured questionnaire on diet history.

Then, the relationship between the diet history, particularly consuming certain drinks, and the degree of some symptoms was determined.

An electronic questionnaire (in the Arabic language) was built using the Google Form application **(Di Renzo *et al*., 2020, and Heuer, *et al*., 2015)** and can be viewed at the following URL:

https://docs.google.com/forms/d/e/1FAIpQLSfNudaJ3Hpn1XonEFU-rJkq5zZnywYhDzoV9Y28rQ9NkmQ8LA/viewform?usp=sf_link

COVID-19 Cases

COVID-19 cases have been defined as symptomatic (with fever, cough, nasal congestion and runny nose, sore throat,

dyspnea, loss of smell or taste, body pain, and diarrhea) or asymptomatic (defined as a positive PCR or antibody test without typical COVID-19 symptoms) **(Kim *et al*., 2021)**.

Severity and Duration of COVID-19 Illness

Participants rated their COVID-19 symptoms from three options: asymptomatic, moderate symptoms, and severe symptoms. In addition, they had to indicate the number of days spent presenting COVID-19 symptoms **(Kim *et al*., 2021)**.

Statistical Analysis

SPSS statistical software (version 11.5.1) was used to analyze the data collected using Pearson's correlation coefficient (R) **(Artimage& Berry., 1987).**

Results

All the tables illustrated the relationship between COVID–19 symptoms and having some drinks (tea, coffee, milk, and fizzy drinks). All tables are divided into three levels: 1) no intake, 2) little intake (weekly or monthly), or intensive intake (more than once a week to daily).

Data in the table (1) displays the relationship between having a drink and having fever symptoms. Briefly, among recovered individuals, most of them were suffering from moderate symptoms. Regarding individuals who didn't consume any of these drinks, most asymptomatic individuals weren't drinking any milk (16.7%), but among those who consumed, most asymptomatic individuals were drinking tea (15.5%).

There was a significant correlation between fever occurrence and milk consumed. (Pearson's correlation coefficient $R = 0.131$, $p < 0.05$).

Table (1): Relationship between having some drinks and fever symptoms

Level of intake		Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
				N	%	N	%	N	%	N	%
No intake		Asymptomatic		4	6.5	18	15	8	16.7	18	14.8
		Syndromes	Moderate	36	58	62	51.7	26	54.2	68	55.7
			Severe	22	35.5	40	33.3	14	29.2	36	29.5
			Total	58	93.5	102	85	40	83.3	104	85.2
		Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic		44	15.5	30	13.3	40	13.4	30	13.4
		Syndromes	Moderate	144	50.7	118	52.2	154	51.7	112	50
			Severe	96	33.8	78	34.5	104	34.9	82	36.6
			Total	240	84.5	196	86.7	258	86.6	194	86.6
		Total		284	100	226	100	298	100	224	100
Total				346		346		346		346	
R				- 0.097		0.001-		0.131*		0.033	

N: Number of participants
R: Pearson's correlation coefficient
*: P-value of correlation was significant ($p < 0.05$), 2-tailed test.

Data in the table (2) shows the relationship between having a drink and having body pain symptoms. Regarding recovered individuals, most of them were suffering from severe symptoms. Those who did not consume tea or milk experienced moderate to severe symptoms (100%), but most asymptomatic individuals were drinking tea (1.4%).

Table (2): Relationship between having some drinks and body pain symptoms

Level of intake		Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
				N	%	N	%	N	%	N	%
No intake		Asymptomatic		0	0	2	1.7	0	0	2	1.6
		Syndromes	Moderate	28	45.2	44	36.7	16	33.3	38	31.2
			Severe	34	54.8	74	61.6	32	66.7	82	67.2
			Total	62	100	118	98.3	48	100	120	98.4
		Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic		4	1.4	2	0.9	4	1.3	2	0.9
		Syndromes	Moderate	80	28.2	64	28.3	92	30.9	70	31.3
			Severe	200	70.4	160	70.8	202	67.8	152	67.9
			Total	280	98.6	224	99.1	294	98.7	222	99.1
		Total		284	100	226	100	298	100	224	100
Total				346		346		346		346	
R				0.054		0.098		- 0.028		-0.030	

N: Number of participants
R: Pearson's correlation coefficient

It is clear from the table 3 that there is a relationship between having some drinks and having cough symptoms. Relatively, among recovered individuals, most of them were suffering from moderate symptoms. According to individuals who didn't consume any of these drinks, most asymptomatic individuals weren't drinking any milk (41.7%). These results are similar to those of individuals who had moderate symptoms (41.7%). Also, among those who consumed, most asymptomatic individuals were drinking tea (21.8%).

Table (3): Relationship between having some drinks and cough symptoms

Level of intake		Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
				N	%	N	%	N	%	N	%
No intake		Asymptomatic		12	19.4	30	25	20	41.7	28	23
		Syndromes	Moderate	32	51.6	64	53.3	20	41.7	66	54
			Severe	18	29	26	21.7	8	16.6	28	23
			Total	50	80.6	90	75	28	58.3	94	77
		Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic		62	21.8	44	19.5	54	18.1	46	20.5
		Syndromes	Moderate	146	51.4	114	50.4	158	53	112	50
			Severe	76	26.8	68	30.1	86	28.9	66	29.5
			Total	222	78.2	182	80.5	244	81.9	178	79.5
		Total		284	100	226	100	298	100	224	100
Total				346		346		346		346	
R				- 0.067		0.054		0.091		0.048	

N: Number of participants
R: Pearson's correlation coefficient

Participants in the table (4) reported the relationship between having a drink and having nasal congestion and runny nose symptoms. With regard to recovered individuals, most of them were suffering from moderate symptoms. In this regard, individuals who didn't consume any of these drinks were the most asymptomatic individuals who didn't drink any coffee (30%); among those who consumed, the most asymptomatic individuals were those who drank tea, followed by those who drank fizzy drinks (24.6%, 24.1% res.).

There was a significant correlation between the occurrence of nasal congestion and runny nose symptoms and tea consumption. (Pearson's correlation coefficient R = 0.128, $p < 0.05$).

Table (4): Relationship between having some drinks and Nasal congestion and runny nose symptoms

Level of intake		Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
				N	%	N	%	N	%	N	%
No intake		Asymptomatic		10	16.1	36	30	10	20.8	26	21.3
		Syndromes	Moderate	34	54.8	58	48.3	36	75	76	62.3
			Severe	18	29	26	21.7	2	4.2	20	16.4
			Total	52	83.9	84	70	38	79.2	96	78.7
		Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic		70	24.6	44	19.5	70	23.5	54	24.1
		Syndromes	Moderate	170	59.9	146	64.6	168	56.4	128	57.1
			Severe	44	15.5	36	15.9	60	20.1	42	18.8
			Total	214	75.4	182	80.5	228	76.5	170	75.9
		Total		284	100	226	100	298	100	224	100
Total				346		346		346		346	
R				- 0.128*		- 0.026		0.056		-0.073	

N: Number of participants
R: Pearson's correlation coefficient
*: P-value of correlation was significant ($p < 0.05$), 2-tailed test.

Data in the table (5) displays the relationship between having a drink and having sore throat symptoms. Briefly, among recovered individuals, most of them were suffering from moderate symptoms. Regarding individuals who didn't consume any of these drinks, most asymptomatic individuals weren't drinking any coffee or milk (25%). Also, among those who consumed, the most asymptomatic individuals were those who drank fizzy drinks, followed by those who drank tea (19.6%, and 19% res.).

There was a significant correlation between the occurrence of sore throat symptoms and tea consumption. (Pearson's correlation coefficient R = 0.131, p < 0.01).

Table (5): Relationship between having some drinks and Sore throat symptoms

Level of intake		Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
				N	%	N	%	N	%	N	%
No intake		Asymptomatic		8	12.9	30	25	12	25	18	14.8
		Syndromes	Moderate	28	45.2	50	41.7	22	45.8	70	57.4
			Severe	26	41.9	40	33.3	14	29.2	34	27.8
			Total	54	87.1	90	75	36	75	104	85.2
		Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic		54	19	32	14.2	50	16.8	44	19.6
		Syndromes	Moderate	158	55.6	136	60.1	164	55	116	51.8
			Severe	72	25.4	58	25.7	84	28.2	64	28.6
			Total	230	81	194	85.8	248	83.2	180	80.4
		Total		284	100	226	100	298	100	224	100
Total				346		346		346		346	
R				- 0.168**		- 0.036		0.026		-0.052	

N: Number of participants
R: Pearson's correlation coefficient
**: P-value of correlation was significant (p < 0.01), 2-tailed test.

It is clear from the data in a table (6) that there is a relationship between having a drink and having diarrhea symptoms. Among recovered individuals, most of them were suffering from moderate symptoms, but most of those who had milk or fizzy drinks intensively didn't have any symptoms. Regarding individuals who didn't consume any of these drinks, most asymptomatic individuals weren't drinking any fizzy drinks (44.3%). Also, among those who consumed, the most asymptomatic individuals

were those who drank milk, followed by those who drank tea (40.9%, 40.8% res.).

There was a significant correlation between the occurrence of diarrhea symptoms and milk consumption. (Pearson's correlation coefficient R = 0.131, p < 0.01).

Table (6): Relationship between having some drinks and Diarrhea symptoms

Level of intake	Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
			N	%	N	%	N	%	N	%
No intake	Asymptomatic		24	38.7	52	43.3	18	37.5	54	44.3
	Syndromes	Moderate	32	51.6	58	48.3	22	45.8	60	49.2
		Severe	6	9.7	10	8.4	8	16.7	8	6.5
		Total	38	61.3	68	56.7	30	62.5	68	55.7
	Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic	116	40.8	88	38.9	122	40.9	86	38.4
		Syndromes: Moderate	138	48.6	112	49.6	148	49.7	110	49.1
		Syndromes: Severe	30	10.6	26	11.5	28	9.4	28	12.5
		Syndromes: Total	168	59.2	138	61.1	176	59.1	138	61.6
		Total	284	100	226	100	298	100	224	100
Total			346		346		346		346	
R			0.085-		- 0.004		- 0.147**		0.023	

N: Number of participants
R: Pearson's correlation coefficient
**: P-value of correlation was significant (p < 0.01), 2-tailed test.

Participants in a table (7) reported the relationship between having a drink and having shortness of breath symptoms. With regard to recovered individuals, most of them were suffering from moderate symptoms. In this regard, individuals who didn't consume any of these drinks were the most asymptomatic

individuals who didn't drink any milk (37.5%); among those who did, the most asymptomatic individuals were those who drank fizzy drinks, followed by those who drank tea (21.4%, 21.1% res.).

There was a significant correlation between the occurrence of shortness of breath symptoms and milk consumption. (Pearson's correlation coefficient R = 0.128, p < 0.05).

Table (7): Relationship between having some drinks and Shortness of breath symptoms.

Level of intake		Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
				N	%	N	%	N	%	N	%
No intake		Asymptomatic		10	16.1	32	26.7	18	37.5	22	18
		Syndromes	Moderate	44	71	64	53.3	22	45.8	68	55.7
			Severe	8	12.9	24	20	8	16.7	32	26.3
			Total	52	83.9	88	73.3	30	62.5	100	82
		Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic		60	21.1	38	16.8	52	17.4	48	21.4
		Syndromes	Moderate	140	49.3	120	53.1	162	54.4	116	51.8
			Severe	84	29.6	68	30.1	84	28.2	60	26.8
			Total	224	78.9	188	83.2	246	82.6	176	78.6
		Total		284	100	226	100	298	100	224	100
Total				346		346		346		346	
R				- 0.014		0.089		0.137*		-0.052	

N: Number of participants

R: Pearson's correlation coefficient

**: P-value of correlation was significant (p < 0.01), 2-tailed test.

The data in the table (8) shows the relationship between having a drink and having loss of smell or taste symptoms.

Regarding recovered individuals, most of them were suffering from severe symptoms. Regarding individuals who didn't consume any of these drinks, most asymptomatic individuals weren't drinking any coffee (23.3%). Among those who did, the most asymptomatic individuals were those who drank milk, followed by those who drank fizzy drinks (15.4%, 15.2% res.).

There was a significant correlation between the occurrence of loss of smell or taste symptoms and coffee consumption. (Pearson's correlation coefficient R = 0.131, p < 0.05).

Table (8): Relationship between having some drinks and Loss of smell or taste symptoms

Level of intake	Drinks / Syndromes rate		Tea		Café		Milk		Fizzy drinks	
			N	%	N	%	N	%	N	%
No intake	Asymptomatic		12	19.4	28	23.3	6	12.5	18	14.8
	Syndromes	Moderate	24	38.7	40	33.4	18	37.5	38	31.1
		Severe	26	41.9	52	43.3	24	50	66	54.1
		Total	50	80.6	92	76.7	42	87.5	104	85.2
	Total		62	100	120	100	48	100	122	100
Intake	Little or Intensive intake	Asymptomatic	40	14.1	24	10.6	46	15.4	34	15.2
		Moderate	102	35.9	86	38.1	108	36.3	88	39.3
		Severe	142	50	116	51.3	144	48.3	102	45.5
		Total	244	85.9	202	89.4	252	84.6	190	84.8
		Total	284	100	226	100	298	100	224	100
Total			346		346		346		346	
R			0.034		0.135*		0.042		-0.060	

N: Number of participants

R: Pearson's correlation coefficient

*: P-value of correlation was significant (p < 0.05), 2-tailed test.

Discussion

The author thinks this is the first study that links COVID-19 symptoms with some drink consumption levels by recovered individuals from the disease. Thus, three levels of consumption have been selected: no intake; little intake (weekly or monthly); and intensive intake (daily or more than once a week). Also, four types of drinks were chosen due to their high consumption (tea, coffee, milk, and fizzy drinks).

According to the WHO, most individuals infected with COVID-19 will experience mild or moderate respiratory symptoms, and they will recover without treatment. Nevertheless, the others become ill and require medical attention. Notably, the most common symptoms are: cough, fatigue, loss of taste or smell, and fever. Headaches, aches & pains, diarrhea, sore throat, a rash on the skin or discoloration of fingers or toes, and red or irritated eyes) are also serious symptoms (loss of speech or mobility, or confusion, chest pain and difficulty breathing or shortness of breath **(World Health Organization, 2021)**. In this respect, some of these most common symptoms have been selected (fever, cough, nasal congestion, runny nose, sore throat, dyspnea, loss of smell or taste, body pain, and diarrhea) for comparison with the level of selected beverage consumption.

Innate immunity is considered the first line of defense against viral infections. Several medicinal plants are used for their therapeutic properties. Because many non-alcoholic beverages, such as tea, have received little attention as a source of nutritional supplements, it is important to highlight the benefits of tea drinking. Green tea, black tea, white tea, yellow tea, and other varieties of tea all derive from the same plant, Camellia sinensis L. **(Chowdhury& Barooah., 2020)**. Plus, drinking tea to eliminate toxins and improve resistance to disease is a plus. Hence, results indicated that tea has beneficial effects on immune parameters and against infections such as the common cold

(Hamer ,2007). These findings coincide with those reported by **(Chowdhury& Barooah., 2020)**found that tea is an important source of nutritional immunity and can also enhance the innate immune response to the COVID-19 pandemic. Additionally, coffee was previously used due to its distinctive taste and its effects stemming from caffeine. Coffee also has antioxidants such as caffeine, caffeic acid, chlorogenic acids, coumaric acid, nicotinic acid, trigonelline, cafestol, ferulic acid, and kahweol **(Açıkalın & Sanlier., 2021)**. The present research converges with **(Belaroussi *et al*., 2020),** which revealed that there wasn't any association between coffee and COVID-19. Milk is one of the main dietary sources of protein for humans. It contains 20% of proteins that can sufficiently meet the human's amino acid requirements. It acts on the immune system against bacteria and viruses. The active activity of milk has been attributed to bioactive components with immunomodulatory and anti-inflammatory potential, such as casein, whey proteins, and associated peptides **(Kim *et al*., 2011)**. Milk, yogurt, cheese, and eggs are rich sources of essential nutrients that possess excellent immunomodulatory and antiviral activities, making them essential for health and development **(Batiha *et al*., 2021**). On the other hand, fizzy drinks are composed of sweeteners (8.12% w/v), acidulants (0.05 0.3% w/v), carbon dioxide (0.3 0.6% w/v), chemical preservatives (lawful limits), antioxidants (<100 ppm), colorings (0.70 ppm), and foaming agents (e.g., saponins up to 200 mg/mL), so if they are used and consumed in large quantities, it may be hazardous to health **(Kregiel, 2015).**.

Conclusions

This study sheds light on the association between the history of drinking some drinks and the symptoms of individuals having recovered from COVID-19. This should contribute to recognizing

the global problem of "diet habits before the pandemic and its consequences" and understanding the role of diet and nutrition in addressing the consequences of the COVID-19 pandemic. The present results indicated that, among recovered individuals, most of them were suffering from moderate symptoms. There was a significant correlation between fever, diarrhea, and shortness of breath occurrences and milk consumed, while there was a significant correlation between the occurrence of nasal congestion & runny nose, and sore throat symptoms and tea consumption. Additionally, there was a significant correlation between the occurrence of loss of smell or taste symptoms and coffee consumption.

Recommendation

More research by adding more kinds of drinks related to COVID-19 symptoms, especially for adults and adolescents, is needed. Also, governments should provide more information related to immunity drinks' content in information, education, and communication.

The strengths and limitations of the study are:

The strength of the study's findings lies in the fact that the relationship between different consumption levels of specific foods by people having recovered from COVID-19 and the symptoms experienced by these individuals was investigated.
The limitation of the study was insufficient participants.

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التاريخ الغذائي لاستهلاك بعض المشروبات وعلاقته بأعراض الاصابة بفيرس كورونا للأفراد المتعافين

الملخص

اجريت العديد من الدراسات للتعرف على تأثير استهلاك المشروبات لتعزيز وظيفة الجهاز المناعي، لكن لم تكن هناك أي دراسة تتحدث عن علاقتها باعراض الاصابة بفيرس كورونا. لذا ، هدفت هذه الدراسة لايجاد الارتباط بين تاريخ استهلاك بعض المشروبات وأعراض الاصابة لدى الأفراد المتعافين من فيرس كورونا. تضمنت هذه الدراسة (ن = 346) فردًا تعافوا من فيرس كورونا "212 امرأة و 134 رجلاً" تتراوح أعمارهم بين 20 و 65 سنة. تم جمع بياناتهم وإجاباتهم في استبيان إلكتروني للتحقق من العلاقة بين تاريخ استهلاكهم لبعض المشروبات وأعراض الاصابة بالفيرس. بشكل عام ، يعاني معظم الأفراد المتعافين من أعراض معتدلة مثل (الحمى والسعال واحتقان الأنف وسيلانه والتهاب الحلق والإسهال وضيق التنفس) والباقين يعانون من أعراض شديدة (ألم الجسم وفقدان حاستي الشم والتذوق). كان هناك ارتباط معنوي بين الحمى والإسهال وضيق التنفس واستهلاك الحليب، بينما كان هناك ارتباط معنوي بين حدوث احتقان الأنف وسيلان الأنف وأعراض التهاب الحلق وتناول الشاي. بالإضافة إلى ذلك، كان هناك ارتباط معنوي بين حدوث أعراض فقدان حاسة الشم أو التذوق واستهلاك القهوة. وتلقي هذه الدراسة الضوء على المشكلة العالمية المتمثلة في "العادات الغذائية قبل الجائحة وعواقبها" ودور النظام الغذائي والتغذية في معالجة عواقب جائحة كورونا.

الكلمات المفتاحية: اعراض الاصابة بفيرس كورونا ، فيرس كورونا ، المشروبات والمناعة.