Hygienic conditions in Quick Service Restaurants during Covid-19 Pandemic: A Customers Perspectives

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ABSTRACT: COVID-19 crisis has hit many QSRs hard. There are numerous problems which are faced by these restaurants due to the high competition in the market. Nowadays, there is an even major problem to be faced in the food industry, which is Coronavirus pandemic. It has a disastrous effect on the food industry. There have been dramatic declines in sales for many Quick Service Restaurants. Some of them have permanently closed their doors. The aim of this research is to examine the hygiene and health conditions in quick service restaurants (QSRs) from customers perspective during Covid-19 Pandemic with a specific focus on international chains in Egypt. Moreover, examining QSR' customers information about COVID-19. In order to achieve this aim, a questionnaire was designed and distributed to a convenience sample of QSR's customers in order to illustrate to what extent QSR chains are maintain the proper hygienic and health conditions during pandemic. The results interestingly showed that QSRs-goers are moderately satisfied with the hygienic procedures that maintained in these chains. In this regard, it is recommended that QSR chains should struggle to increase the level of their customers satisfaction regarding this subject e.g., provision of disinfection materials, wearing and providing protective face masks, gloves, and disposable cutlery and paper cups.

KEYWORDS: COVID-19; quick service restaurants QSRs; food industry; hygiene and health conditions.

INTRODUCTION

QSRs chains were badly affected throughout Covid-19 pandemic, and some restaurants stopped serving some items in their menus and work with limited menu items (Hobbs, 2020; Rude, 2020). Despite government assurances, some restaurants began offering free delivery on orders to avoid panic buying. Furthermore, they formed the maximum number of people allowed at any given time in order to avoid overcrowding. There are many reasons that make QSRs potential hotbeds for outbreak because employees work side by side for long shifts, it's difficult to maintain social distance inside the restaurants. Furthermore, due to noisy environments, talking loudly or shouting results in the release of more droplets into the air (Stewart *et al.,* 2020). Employees also ride the same buses or use car-sharing services, allowing the virus to spread even further. Besides which, restaurant employees earn less and are less likely to have health insurance or paid sick leave. As a result, they risk going to work even if they are sick, increasing the risk of infection. Another factor that aids the virus's spread is the facility's cold and humid environment (Artiga & Rae, 2020).

For the hospitality industry, such as hotels, restaurants, and bars, Covid-19 has become a new crisis (Breier *et al.,* 2021). In early 2020, restaurants were forced to close due to the lockdown policy. Furthermore, customers exhibited a public avoidance of other people. Because of the social distancing policy, authorities advised such businesses to focus on delivery services or reduce seating capacities even after they reopened. In the future, the restaurants' forecast will be disastrous (Severson & Yaffe-Bellany, 2020). As a result, a strategic plan to meet consumer needs during the crisis is critical (Sigala, 2020). Many people exaggerated COVID-19 by stockpiling resources, clients are also hesitant to visit restaurants, hotels, and bars (Mitha, 2020). As a result, it is critical to consider a number of factors that may help to restore guest intentions to visit restaurants in these circumstances (Mirvis, 2020).

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LITERATURE REVIEW

1- Covid-19 Definition

Sohrabi *et al. (*2020) reported that COVID-19 is "a disease caused by a new strain of coronavirus, 'CO' stands for corona, 'VI' for virus, and 'D' stands for disease". Previously, this disease was referred to as '2019 novel coronavirus' or '2019-nCoV.' It is a new virus related to the same family of virus as 'Severe Acute Respiratory Syndrome' (SARS) and some types of common cold. Moreover, it has been mentioned that "Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe disease such as Middle East Respiratory Syndrome (MERS-CoV)" (Jebril, 2020). A novel coronavirus (nCoV) is a new strain that has not been formerly identified in humans, also it is zoonotic, meaning they are transmitted between animals and people (Contini *et al.,* 2020). Common signs of infection include respiratory symptoms, fever, cough, shortness of breath and breathing difficulties (Clemency *el al.*, 2020). *Harcourt et al.* (2020) identified Coronavirus disease 2019 (COVID-19) "that is a contagious respiratory and vascular illness caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)".

2- The History of Covid-19

Shereen et al. (2020) reported that SARS primarily emerged in Guangdong, China and then spread quickly around the globe with more than 8000 infected persons and 776 deaths. Shereen continued that in 2012, a couple of Saudi Arabian nationals were diagnosed to be infected with another coronavirus, it was known as a member of coronaviruses and named as the "Middle East Respiratory Syndrome Coronavirus (MERS-CoV)". It is belonging to the beta-coronavirus subgroup, which is genetically distinct from other human coronaviruses, its infection begins with a moderate upper respiratory infection and progresses to serious respiratory disease (Molaei *et al.,* 2020). Imai *et al.* (2020) reported that MERS-coronavirus infected more than 2428 individuals and 838 deceased.

WHO lately by the end of 2019 was informed through the Chinese government about several infected cases of pneumonia with unfamiliar etiologic (Anderson *et al.,* 2020). The outbreak began in a Hunan seafood market in Wuhan, China, and eventually expanded to more than 50 people (Wu et al.,2020). Bats, frogs, marmots, and snakes are among the live animals often sold at the Hunan seafood store (Mahdy *et al.,* 2020). Additionally, Chinazzi *et al*. (2020) declared that beginning in December 2019, Chinese health experts have been closely monitoring a pneumonia cases in the city of Wuhan in Hubei district, China. In Mainland China, 80,151 cases had been reported and confirmed as of March 3, 2020 (Rong *et al.*, 2020). More than 10,566 additional cases have been reported and confirmed in 72 countries around the world (Mahrosh & Mustafa, 2021).

3- QSRs within the Pandemic Crisis

Because of the COVID-19 pandemic, customer spending has changed online, and Quick Service Restaurants have seen swift and dramatic improvements in the last year (Lynn, 2021). *Bakalis et al.* (2020) pointed out that the lockdown resulted in an increase of home cooking. This may emerge new behaviors following the revolution of convenient food products that are very common to Western markets, providing new opportunities for food productions. Safety measures to ensure the continuity of food flow in each stage can be grouped as food employee's health issues, personal hygiene, using personal protective equipment such as gloves, sanitization of working environments, safe handling/preparation/delivery of food, and maintenance of social distance (Rizou *et al.,* 2020).

Unlike foot and mouth disease, bird flu, or Escherichia coli (E. coli), the COVID-19 pandemic has no significant impact on productivity because it does not spread across agricultural goods (FAO, 2020). However, policymakers around the world have imposed significant transportation constraints as a result of the pandemic; the problems posed by these restrictions, as well as improvements in customer demands, are critical (Stephens *et al.*, 2020). Customers are reluctant to go to restaurants due to the limits, so they cook their meals at home, they also stop going to markets for fear of contracting COVID-19 (Laato *et al.,* 2020). Due to employees who were discovered to be COVID-19 positive and unable to return to work, production in the food industry was limited, stopped, or temporarily halted (Devereux *et al.,* 2020).

More than 100 infected people (Covid-19) have been confirmed, the majority of whom work in restaurants serving seafood and beef. (Schwartz & Graham, 2020). The coronavirus was discovered on a cutting board used in a restaurant (Dhama *et al.,* 2020). Officials believe that Beijing's high humidity and low temperatures are to blame for coronavirus transmission (Kingsbury *et al.,* 2020). Moreover, officials indicated that the surfaces of equipment's used for preparation of seafood and meat products polluted by infected people could be added factor of transmission (Han *el al*., 2020). Government officials blocked/closed many restaurants in fear of the COVID-19 pandemic (Finset *el al*., 2020).

4- Health and hygiene condition in QSRs

The Food and Drug Administration FDA (2020) implies that the established food safety protocols and best practices for fast service restaurants and significant COVID-19 recommendations remain to be followed, including the following: -

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- Clean, Separate, Cook, and Chill are the four main steps of food safety.
- After each use, wash, clean, and sanitize all food touch surfaces, such as food storage surfaces and equipment.
- Clean surfaces that are often touched by employees or visitors, such as doorknobs, equipment handles, and check-out counters, on a regular basis.
- Keep floors and counters washed and disinfected on a regular basis.
- Always apply the food safety procedures and make sure:-
    - Assure the proper food temperatures before cooling.
    - Use ice baths technique for fast cooling and frequently check goods temperatures in fridges and freezers.
    - Proper training for staff with new duties.
- Help consumers retain infection prevention and social distance by: – Discontinuing operations that require customers to use generic utensils, such as salad bars, buffets, and beverage service stations. Finding ways to improve customer spacing when waiting in line for service or checking out.
- Dissuading visitors from taking pets into the store.
- Make sure that your washing machines are working at the adjusted temperatures and with the appropriate detergents and sanitizers.
- Remember that hot water can be used in place of chemicals to sanitize equipment.

METHODOLOGY

Population and Sample

This study is concerned with international QSR chains in developed nations e.g. Egypt. A self-administered questionnaire was designed to examine the hygiene and health conditions in a sample of QSRs. It was distributed to a convenience sample of customers who visited the QSR chains. A number of 240 forms were distributed, of which 204 completed forms were valid which represents 85% response rate. (See Table 1)

Table 1: The Investigated QSR chains

Table 1 The investigated QSR chains in Greater Cairo

QSRs	Distributed Forms	Valid Forms	
	Freq.	Freq.	%
KFC	65	55	26.96%
Pizza Hut	50	45	22.06%
Hardees	50	42	20.59%
Burger King	30	25	12.25%
McDonalds	45	37	18.14%
Total	**240**	**204**	**100.00%**

The questionnaire consisted of two main sections. The first section dealt with customers' demographic data i.e., gender, age, education as well as frequency of visits. The second section focused on some questions related to the customers' information about COVID-19, how it spreads, how one can apply the precautionary measures properly and who are mostly at risk of being infected. In addition to evaluate the hygienic and health conditions that applied by these restaurants, respondents were asked to evaluate the hygienic and health conditions in QSR chains by a 5-point Likert scale (where 1 = strongly disagree, 2 = disagree 3 = neutral, 4 = agree, 5 = strongly agree). Section four asked the participants to add any further comments related to the research. The reliability of the measures was ensured using Cronbach's alpha. The instrument yielded an alpha level of 0.887 (acceptance reliability is above 0.60; Taxali *et al.,* 2020).

For the questionnaire analysis, frequencies and percentages were adopted to analyze the respondents' profile. Descriptive statistics, i.e., mean, and standard deviation, were adopted to analyze the scale items. An Independent Samples t-test was also adopted. The questionnaire was analyzed using SPSS V 25. All qualitative data were analyzed manually by qualitative content analysis according to (Stathopoulou *et al.,* 2019).

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RESULTS AND DISCUSSIONS

1- *The Profile of QSRs Customer*

The profile data of the respondents included their gender, age, marital status, educational level, as well as the frequency of visits (See Table 2).

Table 2 QSR Customers' Profile

Table 00: Respondents' Profile		Freq.	%
Gender	Male	109	53.4
	Female	95	46.6
Age	20 years or under	18	8.8
	From 21 to 40 years	147	72.1
	Over 46 years	39	19.1
Educational level	High school graduate, diploma, or the equivalent, or less	10	4.9
	Institute Graduate	12	5.9
	University degree (biology studies)	37	18.1
	University degree (Non biology studies)	104	51.0
	Post graduate degree (biology studies)	10	4.9
	Post graduate degree (Non-biology studies)	31	15.2
Frequency of visits	First Visit	8	3.9
	Once a month	75	36.8
	Once a fortnight	53	26.0
	Once a week	43	21.1
	Several times a week	25	12.3

Table 2 shows that 53.4% of the respondents were males and 46.6% were females, which reflect that the investigated QSR customers were almost balanced in gender diversity. As expected, the majority of the QSRs customers were aged between 21 to 40 years i.e., 72.1%, followed by 19.1% over 46 years, and 8.8% 20 years or under. This result reflects that most of QSRs customer are from Millennials generation. The millennials generation are aged between 20 to 40 years (Loh 2020)

As for the educational level, it is noticed that 51% of the respondents were holding university degree "non-biology studies", 18.1% were university degree "biology studies", 15.2% were at the postgraduate level "non-biology studies", 5.9% institute graduate, 4.9 High school graduate, diploma or the equivalent, or less, and 4.9% were at the postgraduate level "biology studies". It can be noticed that most of the QSR chains' visitors are university degree holder and this result reflect that they are well educated.

Concerning the frequency of visits, 36.8% of respondents often visit QSRs once a month, and 26% often visit QSRs once a fortnight. Respondents that often visit QSRs once a week have been noticed i.e., 21.1%, 12.3% of the visit QSRs several times a week, while a very small ratio i.e., 3.9% of the respondents confirmed that this is their first visit. This result concurred with Lee *et al.* (2018) who concluded that "consumers visit quick-service restaurants an average of 26.7 times per year".

2- *Independent Samples Test*

The following table indicate the independent factors

Table 3 Independent samples Test

Independent Samples Test				
	t-test for Equality of Means			
	t	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Frequency of visits	2.086	0.038*	.470	.225
Education	1.505	.134	.259	.172
Overall satisfaction with the applied health and safety procedures	-.523	.601	-.084	.161

***Significant at >0.05**

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As shown in Table 3, as it presents the results of the independents-samples T test, that there is significant difference between male and female with regard to one issue: "Frequency of visits" with (Sig= 0.038). Males have higher mean score than female which means males are frequently visiting the QSRs more than female. There is no significant variance between males and females for the rest.

3- *Customers' awareness towards COVID-19.*

The customers awareness regarding the information of Covid-19 is illustrated in Table 4.

Table 4 Customers' information about COVID-19.

*Information about COVID-19.	1 Yes		2 No		3 I Do not Know		Mean	Std. Deviation
	Freq	%	Freq	%	Freq	%		
Coronavirus, COVID-19, follows its faction, and has the capacity to spread various respiratory diseases	177	86.8	0	0	27	13.2	1.26	.679
Coronavirus, COVID-19, includes several strains of human viruses	143	70.1	14	6.9	47	23.0	1.53	.845
Coronavirus is derived from the Latin name Corona, meaning crown according to its distinctive shape	127	62.3	9	4.4	68	33.3	1.7108	.93623
Coronavirus, COVID-19, is a new strain, as it was discovered in 2019.	146	71.6	25	12.3	33	16.2	1.45	.757
There is the new Coronavirus 2012 and the emerging Coronavirus 2019.	113	55.4	15	7.4	76	37.3	1.82	.948
The virus attacks a human cell, enters it, produces new copies, and exits it to attack new cells.	144	70.6	12	5.9	48	23.5	1.53	.850
A good immune system weakens the viruses that attack human cells.	204	100	0	0	0	0	1.00	.000
The virus is transmitted from the infected person through exhaled air and flying droplets during coughing and sneezing from the nose and mouth.	204	100	0	0	0	0	1.00	.000
The virus is transmitted from the infected person through contact with things that the patient touched or dropped the spray on	190	93.1	0	0	14	6.9	1.14	.507
The virus enters the respiratory system through the mouth, nose, and eyes	170	83.3	14	6.9	20	9.8	1.26	.627
The virus lives on surfaces for a period ranging from minutes to several days, depending on the temperature, as the high temperature reduces the length of its life on the surfaces	152	74.5	27	13.2	25	12.3	1.38	.695
The incubation period for the virus is 7-14 days, according to the body's resistance and immunity	195	95.6	5	2.5	4	2.0	1.06	.315
Symptoms of the disease: congestion throat, dry cough, high temperature, shortness of breath, general weakness, and convulsions	172	84.3	28	13.7	4	2.0	1.18	.431

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The social spacing should not be less than one meter	194	95.1	0	0	10	4.9	1.10	.433
The virus can be resisted by disinfecting surfaces with 70% alcohol.	141	69.1	19	9.3	44	21.6	1.52	.827
The virus can be resisted by water and oxygen 5% (H_2O_2)	58	28.4	43	21.1	103	50.5	2.22	.863
The virus can be fought off by using sodium hydrochloride	46	22.5	39	19.1	119	58.3	2.36	.827
Hot blow dryer can be used to disinfect surfaces and clothes	86	42.2	53	26.0	65	31.9	1.90	.856
The easiest and cheapest disinfectants ae water and soap	167	81.9	13	6.4	24	11.8	1.30	.669

*Source; (WHO, 2020)

Table 4 shows that 86.8% of respondents confirm their knowledge that "Coronavirus, COVID-19, follows its faction, and has the capacity to spread various respiratory diseases" and, 13.2% of them were said that they do not know. Moreover, many respondents i.e., 70.1% expressed their knowledge about the strains of Coronavirus, and 23.0% of them said that they do not know, while 6.9% of them said no. Furthermore, it was seen that 62.3% of respondents affirm that "Coronavirus is derived from the Latin name Corona, meaning crown according to its distinctive shape" while, 33.3% of them didn't know and 4.4% said no. Additionally, it is noticed that 71.6% of respondents affirm that "Coronavirus, COVID-19, is a new strain, as it was discovered in 2019." while, 16.2% of them did not know and 12.3% said no.

Many respondents i.e., 55.4% expressed their knowledge concerning the fact "There is the new Coronavirus 2012 and the emerging Coronavirus 2019." and, 37.3% of them did not know, while 7.4% of them said no. Many respondents i.e., 70.6% were express their knowledge concerning the fact "The virus attacks a human cell, enters it, produces new copies, and exits it to attack new cells" and, 23.5% of them were said that they do not know, while 5.9% of them said no they do not know this fact.

All respondents stated the fact "A good immune system weakens the viruses that attack human cells". All respondents agree with the fact "The virus is transmitted from the infected person through exhaled air and flying droplets during coughing and sneezing from the nose and mouth". Many respondents i.e., 93.1% stated their knowledge concerning the fact "The virus is transmitted from the infected person through contact with things that the patient touched or dropped the spray on" while, 6.9% of them did not know. Many respondents i.e., 83.3% stated their knowledge concerning the fact "The virus enters the respiratory system through the mouth, nose, and eyes" and, 9.8% of them did not know, while 6.9% of them answer no.
Many respondents i.e., 74.5% had knowledge about the fact "The virus lives on surfaces for a period ranging from minutes to several days, depending on the temperature, as the high temperature reduces the length of its life on the surfaces" and, 12.3% of them did not know, while 13.2% of them said no. A large percentage i.e., 95.6% stated their knowledge concerning the fact "The incubation period for the virus is 7-14 days, according to the body's resistance and immunity" and, 2% of them did not know, while 2.5% of them said no.
A majority i.e., 84.3% were aware about the fact "Symptoms of the disease: congestion throat, dry cough, high temperature, shortness of breath, general weakness, and convulsions". Also, a percentage i.e., 95.1% knew the fact "The social spacing should not be less than one meter".
Many respondents i.e., 69.1% knew that "The virus can be resisted by disinfecting surfaces with 70% alcohol" and, 21.6% of them did not know this information, while 9.3% of them said no.
Only 28.1% knew that "The virus can be resisted by water and oxygen 5% (H_2O_2)" and, 50.5% of them did not know, while 21.1% of them said no. A percentage of 22.5% were aware that "The virus can be fought off by using sodium hydrochloride" and, 58.3% of them did not know, while 19.1% of them said no.
A percentage of 42.2% know that "Hot blow dryer can be used to disinfect surfaces and clothes" and, 31.9% of them did not know, while 26% of them said no. Many respondents i.e., 81.9% were aware that "The easiest and cheapest disinfectants ae water and soap" and, 11.8% of them did not know, while 6.4% of them said no.

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It can be noticed that most of QSR customers are well known of the COVID-19' information and this may be because most of them are highly educated, which helps reduce the transmission of the virus and limit its spread.

4- Hygiene and Health measures in QSR chains

The agreement or disagreement of customers on the hygiene measure adapted in QSRs are shown in Table 5.

Table 5 Hygiene and health measures in QSR chains

*Hygiene and health conditions	1 Strongly disagree		2 Disagree		3 Neutral		4 Agree		5 Strongly agree		Mean	Std. Deviation
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Customer temperature measurement in the entry area	0	0	4	2.0	4	2.0	52	25.5	144	70.6	4.65	.622
Availability of alcohol disinfectant in the restaurant	0	0	0	0	8	3.9	17	8.3	179	87.7	4.84	.464
There are guidelines posters for customers to raise awareness to avoid the spread of Corona disease	0	0	8	3.9	4	2.0	30	14.7	162	79.4	4.70	.699
Maintaining the personal space between tables and chairs	0	0	4	2.0	4	2.0	31	15.2	165	80.9	4.75	.588
Employees wear a face mask	0	0	0	0	0	0	38	18.6	166	81.4	4.81	.390
The employees wear hand gloves	0	0	16	7.8	13	6.4	45	22.1	130	63.7	4.42	.919
Cups and plates that are used once and for one are available in restaurants	0	0	4	2.0	0	0	18	8.8	182	89.2	4.85	.494

*Source: (Selim *et al.,* 2020)

Rizou *et al.* (2020) concluded that hygiene and health measures in restaurants can be grouped as food employee's health issues, personal hygiene, using personal protective equipment such as gloves, sanitization of working environments, safe handling/preparation/delivery of food, and maintenance of social distance. In this essence Table 5 shows that 70.6% of customers strongly agreed that "their temperature was measured in the entry area" and, 25.2% of them were agree. This is reflecting the focus of QSRs on tracking the temperature of its customers since that the most common symptoms of the coronavirus disease are fever. Moreover, most respondents i.e., 87.7% were strongly agree that "Alcohol disinfectant is available in the restaurant". In that essence, WHO suggested the Alcohol as an important disinfectant that destroy Corona Virus. Moreover, it was discovered that 79.4% of respondents strongly disagreed that "There are guidelines posters for customers to raise awareness to avoid the spread of Corona disease". In addition, 80.9% of them strongly agree that "personal space between tables and chairs are kept in QSRs". It can be noticed that this result may be due to the government restriction and the penalties that may be applied for the offenders. These results concur with Stewart *et al.,* (2020) who concluded the reasons that make QSRs potential hotbeds for outbreak, e.g., keeping social distance inside the restaurants is difficult because workers stand side by side during long shifts. A percentage of 63.7% were strongly agree that "The employees wear hand gloves". Most respondents i.e., 89.2% were strongly agree that "disposable cups and plates are available in restaurants". It can be noticed that this result may be true due to the government restriction and the penalties that may applied for the offenders.

5- Overall satisfaction towards the health precautions in QSRs

The overall satisfaction of respondents towards the whole health precautions that applied in QSRs are shown in Table 6.

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Table 6 Overall satisfaction towards the health precautions in QSRs

	Frequency	Percent	Mean
Not satisfied at all	13	6.4	
Not satisfied	32	15.7	
Neutral	74	36.3	3.32
satisfied	46	22.5	
Very satisfied	39	19.1	
Total	204	100.0	

Table 6 reveals that the respondents rated their overall satisfaction towards the health precautions in QSRs as being moderately successful with an overall level of satisfaction of 3.32 (Mean Score) being reported. This reflects that QSRs-goers are moderately satisfied with the health procedures that applied in restaurants. Hence, QSRs should strive to increase the level of its customers satisfaction regarding applying the health procedures in addition of taking a higher role of raising the customers' awareness regarding the precautionary measures through the guiding posters and the provision of disinfection materials, protective face masks, gloves, and one-way cutlery and paper cups. QSR should make sure that the hygienic and health conditions are applied correctly for the wellbeing of employees and the customers.

6- The most important health deficiencies in QSRs that help spread the virus.
The respondents were also asked to state their opinions about the hygienic deficiencies that make QSRs potential hotbeds for COVID-19 outbreak. The major deficiency was "The place is crowded in addition to not following the social distancing measures" with a percentage of 39.7%. This result concurs with Stewart *et al.* (2020) who confirmed that keeping social distance inside the restaurants is difficult because workers stand side by side during long shifts and this may be a significant reason for COVID-19 outbreak.

Moreover, the deficiency "Disinfectant bottles not available on all tables, and not regularly disinfect the table, and not regularly disinfect the tables" ranked as the second major reason for increasing Covid-19 outbreak with percentage 30.1%.
The results showed that 24.7% of respondents agreed that "Not wearing face masks and gloves and not following personal hygiene procedures" is the third deficiency for increasing Covid-19 outbreak. Moreover, "QSRs failed to provide disposable cups and plates all the times" was found to be the minor deficiency that help coronavirus to more spread that was considered by 5.5% of respondents. In conclusion, to reduce the spread of the Corona pandemic, QSR chains should take the proper precautions and follow hygienic measures while visiting restaurants.

CONCLUSION AND IMPLICATIONS
This research examining the hygiene and health conditions in quick service restaurant (QSR) from customers perspective during Covid-19 Pandemic with specific focus on international chains in Egypt. The results showed that there is significant difference between male and female regarding; "Frequency of visits" with (Sig= 0.038). it was noticed that males have higher mean score than female which means males are frequently visiting the QSRs more than female. Unsurprisingly, the majority of QSR' customers are well known of the COVID-19' information and this may be because most of them are highly educated, which helps reduce the transmission of the virus and limit its spread. QSRs-goers are moderately satisfied with the hygiene and health measures that applied in QSR chains. Moreover, majority of customers were strongly agreeing that QSR chains are maintaining the personal space between tables and chairs, and it can be noticed that this point is may be true and this may be due to the government restriction and the penalties that may be applied for the offenders. It was noticed that the main reason that make QSRs potential hotbeds for COVID-19 outbreak is un-follow proper personal hygiene methods (e.g., hand washing and sanitizing). The most important hygiene and health deficiency in QSR that may increase spread the virus is that the place is crowded in addition to not following the social distancing measures. A similar study can be suggested to be conducted on hotels' restaurants and Nile cruise ships.

RECOMONDATIONS:
1- QSR chain should contribute to raising the customer awareness regarding the Covid19 precautions by providing posters that promote awareness and actions that can be taken to help eliminate COVID-19 from spreading in QSR.

2- QSR chain should always maintain the personal space between table and at the counter. In addition, QSRs furniture inside the restaurant need to rearrange in order to keep the personal space.

3- QSRs should pay mor attention to in-store cleanings and sanitizing and increase its frequency, ensuring that high-touch areas are sanitized (e.g., counters, doorknobs).

4- QSR chains should struggle to increase the level of customers satisfaction regarding applying hygiene and health measures e.g., provision of disinfection materials, wearing and providing protective face masks, gloves, and availability of disposable cutlery and paper cups.

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