



Covid-19 and Food Safety in The Tourism and Food & Beverage Industry

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Article info:

Received: 29.06.2021

Accepted: 25.04.2022

Keywords:

*Covid-19, Food Safety,
Food & Beverage Industry*

Abstract

The COVID-19 pandemic, which emerged at the end of 2019 and spread rapidly all over the world, has created a major threat in all areas of society in a short time. Therefore, quarantine and isolation measures have been implemented by many countries to prevent the spread of the disease. However, after these practices, which minimized going out, many sectors, including tourism, experienced great problems. As a result, serious negative effects emerged economically. Although various measures have been taken to hygienically present food and beverages to customers in hotels and restaurants, many customers are unsure of their hygiene measures and are worried about their outside food and beverage consumption. In this review, the effect of the coronavirus on the food and beverage industry and the measures taken are mentioned, and it is examined whether customer concerns are justified in this direction.

1. Introduction

In early December 2019, a series of cases of pneumonia of unknown origin occurred in Wuhan, China's Hubei province. Subsequently, the disease quickly spread domestically to other parts of China and globally to many countries across continents. Later, a new member of the enveloped RNA coronavirus was identified in bronchoalveolar lavage fluid samples taken from a patient in Wuhan, on January 3, 2020 (Dong et al., 2020; Lu et al., 2020),

and the name of the new virus was announced as SARS-CoV-2 on February 11, 2020. From the same date, by the World Health Organisation (WHO) the official name of this virus was announced as COVID-19 (WHO, 2020b). Later, on March 11, 2020 the COVID-19 outbreak was declared a global pandemic by the WHO (Organization, 2020).

Typical symptoms of COVID-19 are fever, tiredness, sore throat, cough, and shortness of breath (Zhai et

al., 2020). However, the prolonged and excessive chemokine/cytokine responses known as cytokine storm may lead to death in some individuals by causing multi-organ dysfunction or acute respiratory distress syndrome (Ye, Wang, & Mao, 2020). Transmission happens from person to person; An average incubation period of 2-10 days is defined for this virus, which is easier to spread through droplets, contaminated hands or surfaces (Kampf, Todt, Pfaender, & Steinmann, 2020).

While the disease is in such a serious condition, the health systems and society have been under serious threat in a very short time due to this pandemic (Cucinotta & Vanelli, 2020). Since it is known that the virus is transmitted from person to person and symptomatic people are the most common source of COVID-19 spread, isolation is considered the best way to control this epidemic (Cascella, Rajnik, Cuomo, Dulebohn, & Di Napoli, 2020). Isolation and quarantine are two measures, and these can minimize or prevent the impact of infectious disease outbreaks. In public health practice, while "quarantine" means the segregation of people (or communities) affected by an infectious disease, "isolation" applies to the separation of people known to be infected (Parmet & Sinha, 2020). During the COVID-19 pandemic process, the majority of countries implemented quarantine and people were instructed to stay at home (Flanagan et al., 2020). The limited and even restricted transportation between countries slowed down global economic activities (Baldwin & di Mauro, 2020). As a result, COVID-19 caused global lockdowns and had a devastating impact on both the travel and tourism industry and the rest of the economy (Škare, Soriano, & Porada-Rochoń, 2020).

2. How Tourism and Food & Beverage Sector Have Been Affected due to Coronavirus Pandemic?

In the past, global tourism has been exposed to a variety of crises. Between 2000 and 2015 there are some examples including; September 11 Terrorist Attacks (2001), Severe Acute Respiratory Syndrome (SARS) (2003), Global Economic Crisis in 2008 and 2009 and Middle East Respiratory Syndrome (MERS) (2015). But, none of these has led to a long-term decline in the global development of tourism. At this point, the impact of the COVID-19 pandemic has resulted in unprecedented effects (Gössling, Scott, & Hall, 2020). In modern times, there has not been a situation that causes economic disruption as large as COVID-19 worldwide (Škare et al., 2020).

As travel is necessary for tourism activity, any factor that hinders travel can have a profound effect on the tourism industry, and COVID-19 is a typical example (Yeh, 2020). Hotels are dependent on economical activity and especially travel. Cancellations or postponements of social events around the world and decreases in hotel reservations caused a huge impact on hotel managements (Jiang & Wen, 2020).

However, the food sector, including food distribution and retailing, has attracted great attention as a result of food stockpiling due to people panicking and worrying about famine (Nicola et al., 2020). Supermarkets have such a high request for food products, while cafes and restaurants have been forced to close (Nicola et al., 2020). Because in response to the quick spread of the pandemic, very countries have ordered to stay at home by taking drastic measures to reduce the spread. Staying at home harmed restaurants, with a sharp decline in

demand for restaurants, especially for dinner (Yang, Liu, & Chen, 2020). At the same time, restaurants have been closed for a long time in many countries within the scope of maintaining social distance (Gössling et al., 2020). Some restaurants that only continue their services with take-away services have had to close completely due to the decrease in customers (Gössling et al., 2020). For instance, according to the National Restaurant Association, from March 1 to March 22, sales in restaurants across the country in America decreased by 47% during the period, and 7 out of 10 operators had to reduce working hours and lay off employees. Also, as a result of COVID-19, 3% of the restaurants have been permanently closed and 44% have been temporarily closed in the country (Association, 2020). The situation in our country is no different. While some of the businesses have closed, some have resorted to alternative ways such as staff reduction (Garipağaoğlu Uğur, & Akova, 2021). In our country, there is no official data on workplaces that have been closed since the onset of COVID-19 (Yeşilyurt, & Kurnaz, 2021). However, in the June 2020 employment monitoring bulletin of the Economic Policy Research Foundation, it is seen that accommodation, building and landscaping activities, food and beverage service activities are in the first three places, respectively, when the sectors with a decrease in the number of employees are examined. The decrease in the number of workers working in the food and beverage service activities is 27.040 (TEPAV, 2020).

3. Food Safety in Coronavirus Pandemic

There is no absolute safety guarantee for food. It is impossible to test all food-related products for toxin,

pathogen and any pollutant agents; however, each country has data that oversees food safety, regulating which additives are allowed in food and what levels of unavoidable contaminants are admissible (Borchers, Teuber, Keen, & Gershwin, 2010). Another problem with COVID-19 is the safety of the food. Infection due to food causes panic. Food safety is to comply with the necessary rules and take precautions in all processes of food production, processing, storage, transportation and distribution to ensure healthy food production. In this sense, food safety includes the concepts of healthy and beneficial food (Uzunöz, Büyükbay, & Bal, 2008).

Coronavirus can taint on fresh good products such as fruits and vegetables or packaging of foods via sneezing or coughing from an infected person (für Risikobewertung, 2020). Also, the virus can infect people from contaminated surfaces by touching them during food processing. With tainted hands, a person can infect himself via oral or nasal or optical ways. However, this virus is highly susceptible and theoretically unable to withstand stomach acid (Pressman, Naidu, & Clemens, 2020). It is known that the acidic conditions (pH <3) of the stomach inactivate the SARS-CoV coronavirus (Darnell, Subbarao, Feinstone, & Taylor, 2004). In this sense, it seems unlikely that people will catch COVID-19 from food or food packaging (WHO, 2020a).

According to researches, it is revealed that human coronaviruses can stay alive for up to 9 days on a surface of glass, plastic or metal (Kampf et al., 2020). Another research states that the SARS-CoV-2 virus can remain alive on air for 3 hours, on copper for 4 hours, on cardboards for 24 hours, on plastic and stainless steel for up to 72 hours (Van

Doremalen et al., 2020). Contrary to that viruses cannot reproduce on food, unlike bacterias, so that the viral load has expected to drop in time (Pressman, Naidu, & Clemens, 2020). After 5 minutes of incubation under 70°C, SARS-CoV-2 becomes inactive (Chin, Chu, Perera, & Hui, 2020). This states that normal cooking temperatures, ie >70°C, are enough for viral inactivation; however, there is still a possibility of infection through frozen food products. Therefore, it is important to wash hands after in contact with the raw meals (Rizou, Galanakis, Aldawoud, & Galanakis, 2020). Ultimately, these data support the importance of processing or cooking food to minimize the risk of COVID-19 and SARS-CoV-2 transmission through a potentially contaminated food source (Pressman, Naidu, & Clemens, 2020). It is also necessary to wash hands with water and soap for at least 20 seconds either hand sanitiser containing at least 60% alcohol after removing food from the packaging for precautionary purposes. Additionally, vegetables and fruits should also be properly washed with water before consumption (Desai & Aronoff, 2020). In addition to these, the use of different kitchen utensils and chopping boards for raw and cooked foods is another issue to be considered in order to prevent cross contamination (Dündar & Argun, 2021). Proper use of masks and gloves in the food industry can also be beneficial in minimizing the spread of COVID-19 (WHO, 2020a). As a result, various security measures should be taken for protection purposes. In this respect, food safety is of particular importance (Desai & Aronoff, 2020).

4. Should Consumers be Worried About the Tourism and Food-Beverage Sector?

SARS-CoV-2 firstly infects via contaminated hands with touching mouth, nose or eyes, or via respiratory droplets and can be transmitted from human to human (Desai & Aronoff, 2020). However, the issue of whether COVID-19 is transmitted through food is an important concern (Han et al., 2021). It is important to note that there is no evidence of spreading COVID-19 via food consumption. According to available epidemiological, this virus is not food-related. Additionally, no known alive virus can withstand heat treatment, so that it can be said that whole cooked meals are considered safe to eat (Shahidi, 2020). However, questions remain unanswered because of the stability of SARS-CoV-2 under various environmental conditions and its persistence on commonly touched surfaces, including food contact surfaces (Han et al., 2021). Given that this viral pathogen survives for days on inanimate surfaces such as cardboard, plastic and stainless steel, it is possible that animal (meat) tissue surfaces can be critical bases for foodborne transmission of COVID-19 (Pressman, Naidu, & Clemens, 2020). As a result of a study aiming to give an idea about food concerns in adults during COVID-19, it was stated that 58.3% of the participants had concerns about food safety (Dumas et al., 2022). Therefore, assessing the potential impact of the virus on food safety is an highly important issue for governments, the food industry and consumers worldwide (Han et al., 2021).

Considering all these, the precaution should not be abandoned and various measures should be taken to minimize the risk in the tourism and food-beverage sector. Hotel restaurants should stick the hygiene protocols and high cleaning standards as well as increase security measures to help reduce the effects

of contagious diseases (Jiang & Wen, 2020). Hotels should not only keep their customers safe but also implement procedures to support the sector (Hameed, Mahomed, & Carvalho, 2020). During the pandemic, food-beverage operators and hotels have implemented some protocols to minimise contact with the food to reaccept their customers (Bayat, 2020). Several different rules differ from hotel to hotel. As an example;

- Tablecloths or tablemats will not be used in restaurants.
- Salads and desserts at the cold buffet will be served on one plate, while hot ones will be served by a responsible person at the buffet.
- Disposable pepper, salt shakers will be used.
- Staff will always use gloves and masks.
- In the bar section, a strip will be placed at a distance of 1.5 or 2 meters between the guest and the bar counter.
- There will be a distance of at least 1-5 meters between the tables in the hotel. After, the tables will be cleaned and disinfected as soon as the guest leaves (Bayat, 2020).
- A la carte will be preferred instead of open buffet service (Hameed et al., 2020).

Also during the COVID-19 restaurants have to take some measures; mainly they focused on hygiene and sanitation to serve reliable food. Due to social distance restrictions, the number of tables has been reduced and better ventilation have been installed to provide a safer environment (Lakshmi & Shareena, 2020). At the same time, to avoid sharing or using reusable items such as menus, spices, the use of single-use or digital menus, single-portion spices is important for food safety (CDC, 2020). Due to the

close of some restaurant, online order numbers have been increased (Lakshmi & Shareena, 2020). Hygienic packaging is important on online orders.

As a result, because information on COVID-19 is still very limited, although the available data do not provide evidence of a foodborne infection, necessary measures should be taken by both the tourism and food-beverage industry and the customers themselves in order to minimize the risk.

2. Conclusion

As a result in literature, there is no data stating that COVID-19 can be transmitted via food. However, It is not to be forgotten that COVID-19 is still a very new subject for the world and scientific data is not sufficient. Therefore, it is an important issue to make various revisions in the food sector for precautionary purposes, to pay attention to food safety and to pay attention to hygiene while eating from outside. At the same time, the personnel working in the tourism and food-beverage sector should be trained on the subject. With more researches to be conducted over time in future, precautions should not be stretched until obtaining clearer information about this disease.

Conflicts of interest

There are no conflicts of interests to declare.

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