REVISTA O MUNDO DA SAÚDE

Evaluation of the Food Services of a Public University in Rio de Janeiro during the COVID-19 Pandemic

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Abstract

With the emergence of COVID-19, Food Services (FS) needed to adapt to the protocols established by health agencies to avoid the transmission of the SARS-CoV-2 virus. Although there is no evidence of transmission of the virus through food, contagion can occur between food handlers and customers. In this study, the objective was to evaluate the measures implemented in a university FS in order to prevent the transmission and contagion of COVID-19. The methodology used was descriptive and quantitative. Data collection took place from July to October 2021, through the application of a checklist based on health standards for the prevention of transmission of COVID-19. The results showed that the FS demonstrated non-conformities in some items (28.9%), even though the changes made were in accordance with the guidelines of health agencies. The changes mainly refer to the recommendations of health protocols for the prevention of COVID-19 such as natural ventilation, reinforced cleaning, use of Personal Protective Equipment (PPE) - mask, informative posters, and physical distancing. It is concluded that it is necessary to put into practice the current regulations and correct the possible flaws so that the FS reach all the requirements required by the legislation in the prevention of the transmission of COVID-19.

Keywords: SARS-CoV-2. Good Manufacturing Practices. Food Safety. Worker's health.

INTRODUCTION

Good Manufacturing Practices (GMP) for institutional Food Services (FS) are important requirements that aim to establish a solid base of technical and operational knowledge, in order to guarantee the safety and quality of food for the protection of consumer health[1]. The Resolution of the Collegiate Board of Directors (CBD) No. 216/2004 presents parameters of hygienic-sanitary quality with regards to GMP for food services, in order to guarantee the hygienic-sanitary conditions of the prepared food. Furthermore, CBD No. 275/2002 is a regulation that aims to establish Standard Operating Procedures, which complement the GMP and collaborate to ensure the hygienic-sanitary conditions necessary for the processing/industrialization of food[2,3].

Institutional FS are organizations dedicated to the preparation and provision of

DOI: 10.15343/0104-7809.202246503514I

adequate meals from a nutritional, sensory, and microbiological point of view, in order to meet the needs of consumers[4]. With the emergence of COVID-19, an infectious disease caused by the new coronavirus (SARS-CoV-2), it was necessary to reorganize the FS in order to prevent the transmission of the virus. In addition to the distance between employees, care with the hygiene of employees increased and there was a strengthening of the guidelines for cleaning and disinfection of the environment[5].

The effect of the pandemic had a direct impact on FS, affecting activities and revenue[6]. In universities, day care centers, and schools, the production of meals was suspended as a result of the stoppage and reduction of activities. On the other hand, other centers experienced an increase in activities, such as hospitals, for example[7].

According to Tondo and Bartz[8], some items related to GMP need to be monitored, such as: environmental conditions, physical-functional aspects, sterilization of furniture, equipment, utensils, and facilities; hygiene of food handlers; and behavior at work. Thus, creating and applying an instrument that brings together all the important points to monitor GMP, establish controls and correct failures, becomes paramount especially at a time when preventing the transmission of SARS-CoV-2 is essential. The checklist is an ideal instrument for grouping, evaluating, and supervising the performance of activities in food establishments[9].

Checklists are widely used by sanitary control bodies, researchers, consultants, among other professionals for the purpose of diagnosing, mapping, monitoring, and evaluating services and operations, aiming at decision-making and the execution of tasks or actions. This instrument has been used profusely by professionals in the food sector for a broad, objective, and systematic evaluation of services[3,10,11,12].

The Food and Drug Administration (FDA) has produced materials and a checklist containing the new practices that FS must carry out to ensure hygienic-sanitary conditions in food production in times of the COVID-19 pandemic[13]. In Brazil, the National Health Surveillance Agency (ANVISA) developed regulations in order to guarantee GMP and Food Handling with new actions to prevent COVID-19[14].

One of the regulations developed by ANVISA was Technical Note No. 47 of 2020, which deals with the importance of frequent hand washing with soap and water or the use of sanitizing products, in addition to cleaning and disinfection of surfaces and objects, for health and handler safety. Hygiene is a sanitary norm and as cleaning reduces impurities and disinfection reduces or eliminates the presence of microorganisms, it is necessary to use appropriate chemical products[15].

Complementarily, ANVISA published Technical Notes No. 48 and No. 49 that present the main recommendations applicable to Food Services in the fight against COVID-19 such as the measures to be adopted in the manufacture and handling of food, with a focus on the health of the worker and in Good Manufacturing Practices (GMP), as well as recommendations on the use of face masks, gloves, and customer service, respectively[14,5].

Biosecurity measures are recommended and must be carried out by people, in general, in an integrated way, so that they can have better health conditions. These measures are composed of individual measures: use of a mask, hand hygiene with water and liquid soap or 70% alcohol, avoid touching the eyes, nose, and mouth, among others; and managerial measures: orientation of physical distance in common spaces, tables,

and chairs with a physical distance of at least one meter, air circulation in the environments - natural air or air conditioners that promote the exchange of air with the external environment[16].

This study aimed to evaluate the measures implemented in FS in order to prevent the transmission and contagion of COVID-19. This study is justified by the need to know the sanitary conditions of the FS, aiming at food safety and the health of consumers and workers during the COVID-19 pandemic.

METHODOLOGY

The type of study carried out was applied with a descriptive and quantitative methodology[17]. The research was carried out between April and October 2021 at the Food Services of a Public University.

The research was developed in four stages, due to the need to understand the public health state being experienced, as well as the implications for the management of Food Services. The first stage comprised of bibliographic research on recommendations, and national and international resolutions by health and sanitation agencies for the control of infectious diseases. The second stage dealt with the elaboration of the checklist in Google Forms® format (https://forms.gle/gRWqpvcTK9aEvWGo9), based on CBD No. 275/2002[3], CBD No. 216/2004[2], the guide of contributing factors for outbreaks of food diseases[18], Technical Note No. 47 of 2020[15], Technical Note No. 48/202014, Technical Note No. 49/20205, and the Food Safety Checklist[13]. The list consisted of nine sections, namely: physical and functional aspects; worker health and safety; social distancing; sanitization of hands; cleaning of equipment, utensils, and environment; receipt of raw materials, ingredients, and packaging; transport of meals; cafeteria; and display of prepared food; totaling 91 questions. The third stage comprised a pilot test of the checklist, which was carried out by professionals managing different types of Nutrition Services, similar to those of the study. Subsequently, there was the application of the finalized list in the FS of a Public University in Rio de Janeiro, constituting the fourth stage of the research project. The sample used in the study was collected by convenience, in view of the access to FS available in the context of the pandemic and considered representative of this context[17].

The form was open on the Google Forms® platform from July 5 to October 27, 2021. However, it was applied in person, at the request of Nutrition professionals, in order to facilitate understanding of the issues presented. The FS studied were identified as FS1, FS2, and FS3 which produce meals for preschool (FS1), school (FS2), and hospital (FS3) audiences.

For data analysis and tabulation, descriptive statistics were used, in the form of relative frequency, using the Microsoft Office Excel®365 program.

The present work was approved by the Research Ethics Committee of the Faculty of Medicine of the Hospital Universitário Antônio Pedro (CEP FM/UFF), under the Certificate of Presentation for Ethical Assessment (CAAE), No. 297.13920.7000.5243.

RESULTS

Identification of Food and Nutrition Centers

FS1 and FS2 produce small meals (morning snack and afternoon snack), serving 57 and 372 meals per day, respectively. FS3 produces small meals (breakfast, morning snack, afternoon snack, and supper) serving 600 meals a day. Moreover, this place also serves large meals (lunch and dinner) through the outsourced service system of transported meals, totaling an average of 400 meals per day. Before the COVID-19 pandemic, the three food services operated with the self-service distribution system. However, during the pandemic, the distribution of meals in ready-made servings in closed packages began. All FSs have outsourced food handlers.

Technical profile

FS1 and FS2 have, respectively, 8 and 5 employees, all third-party food handlers. FS3 has 41 employees, including food handlers, stockers, general workers, and administration services, under outsourcing and temporary contracts. All nutritionists are managers and public servants, distributed according to each unit, being: two in FS1, one in FS2, and two in FS3.

Results of the COVID-19 Prevention Checklist

The tables below present the main results of the checklist in relation to physical-functional conditions, the safety of handlers, physical distancing in the work area, aspects related to hygiene procedures, and conditions of food exposure. In general, the FS presented a percentage of 67.6% compliance and for the items surveyed, against 28.9% noncompliance, and 3.5% of the option of "could not answer".

Table 1 – Evaluation of the physical-functional, environmental, and operational conditions of the food services researched in the COVID-19 pandemic. Rio de Janeiro, 2021.

Evaluation	YES (%)	NO (%)	UNKNOWN (%)
GMP applied in accordance with CBD 275 and 216?	100	0	0
POPs are applied?	100	0	0
Work area has natural ventilation?	100	0	0
Is the exhaust system working?	0	67	33

Table 2 – Evaluation of the health and safety of the worker of the food services surveyed in the COVID-19 pandemic. Rio de Janeiro, 2021.

Evaluation	YES (%)	NO (%)	UNKNOWN (%)
Employees were vaccinated?	100	0	0
Was there training on prevention of Covid-19?	67	33	0
Was there guidance on the symptoms of COVID-19?	100	0	0
Was there guidance to report if they show symptoms?	100	0	0
Is there a protocol for suspected infection for COVID-19?	67	0	33
Is there a protocol for contacting infected people?	0	100	0
Were there employees unable to work due to by Covid-19?	33	67	0

Table 3 – Evaluation of the physical distancing of the food services researched in the COVID-19 pandemic. Rio de Janeiro, 2021.

Evaluation	YES (%)	NO (%)	UNKNOWN (%)
Was it possible to establish a distance of 1.5 m?	100	0	0
Was there a scheduling of working hours?	67	33	0
Is the staff's lunch time staggered?	0	67	33
At lunch time there is social distancing?	100	0	0

Table 4 – Evaluation of the processes of hand hygiene, environment, utensils, equipment, and food packaging used in the production of meals of the food services researched in the COVID-19 pandemic. Rio de Janeiro, 2021.

Evaluation	YES (%)	NO (%)	UNKNOWN(%)
Are there exclusive washbasins for hand hygiene?	33	67	0
Was there training emphasizing the correct hygiene of the hands?	67	33	0
Are the sinks equipped with detergent and sanitizing?	100	0	0
Is there a scale of reinforcement of cleaning and disinfection of utensils?	67	33	0
Was there an increase in the frequency of sanitization of surfaces?	100	0	0
Has the packaging been sanitized?	33	67	0

Table 5 – Evaluation of the hygiene conditions of the cafeteria and exposure of the prepared food of the food services researched in the COVID-19 pandemic. Rio de Janeiro, 2021.

Evaluation	YES (%)	NO (%)	UNKNOWN (%)
Do the tables and chairs keep the distance of 1.5m?	100	0	0
Are there physical barriers in places of greater contact?	0	100	0
Are there posters on Covid-19 prevention care?	67	33	0
Is the environment naturally ventilated?	100	0	0

DISCUSSION

From the application of the questionnaire in the FS surveyed, it was found that the three sites displayed different percentages of compliance. FS2 obtained the highest percentage of compliance in all items of the questionnaire, with 71%, followed by FS3 with 67% and FS1 with 58%. These results indicate greater or lesser agreement of the management of services in relation to the health guidelines in the prevention of transmission of SARS-CoV-2.

Physical and Functional Aspects of the studied FS's

According to the observed data, all services apply GMP and Standardized Operating Procedures (SOPs). With the COVID-19 pandemic, the normative instructions published by the National Health Surveillance Agency reinforce the need to comply with GMP of

food services in order to prevent the transmission of the virus in the food production chain and among workers[14,19].

A study conducted by Persch *et al.*[20], identified that the FS that implemented the good practices (GP) showed improvement in sanitary quality. First, a Checklist was applied in Good Food Handling Practices in a Food and Nutrition Center, after the results were elaborated, measures were implemented for the correction of the main non-compliance concerns of the site. After this stage, the questionnaire was reapplied, which obtained an increase of 14.73% in compliance in relation to the previous result[20].

Other similar results were observed by Vasques and Madrona, who applied a checklist to verify non-compliance, and, like the previous study, an action plan was elaborated with corrective measures that influenced the decrease of non-compliance in the services[21].

Analyzing the data in table 1 referring to ventilation, the 3 FS's have natural ventilation in the work area. This was a satisfactory result because it is already known that indoor environments and inadequate ventilation facilitate the spread of the SARS-CoV-2 virus, increasing the risk of contracting COVID-19. To prevent this from happening, adequate ventilation should ensure air renewal and maintenance of the environment free of aerosols and suspended particles[22].

Moreover, the FS2 and FS3 were no adequate in relation to the exhaust system (67%), despite its existence. The manager of FS1 (33%), did not know how to answer this question. Natural ventilation is not always sufficient to ensure air renewal and thus it is necessary to install equipment such as the hood. The exhaust system in a food production area is essential and ensures that gases, vapors, and odors from the cooking processes of the preparations are captured and treated, avoiding thermal discomfort and the presence of odors in the work environment. According to the standards of the Brazilian Association of Technical Standards (BATS), this equipment is a mandatory item in professional kitchens[23]. In a professional kitchen, the temperature being 22ºC to 26ºC, with relative humidity of 50 to 60%, is considered appropriate for the operations that are performed[24].

Studies conducted by Braga *et al.*[25] and Araújo *et al.*[26] also showed non-compliance concerning ventilation in the area of production of commercial food and nutrition centers. Inadequate ventilation of the units caused a concentration of smoke and steam from cooking food, causing thermal discomfort. High temperatures, along with hard work, are harmful to the health of food handlers and can cause malaise, dehydration, headache, increased work accidents, and are associate with low income. Adequate ventilation can be obtained through openings and windows or through equipment, such as hoods in the production area. This is an item that requires management's attention to ensure an appropriate work environment[26].

Health and Safety of workers of the studied FS's

All employees of the three SAs were vaccinated with two doses against COVID-19. This is a great result, since vaccines against SARS-CoV-2 were able to considerably reduce the risk of worsening of the disease, hospitalization and, consequently, the number of deaths[27]. However, even with the complete vaccination schedule, it is possible to contract the SARS-CoV-2 virus and transmit to others, moreover, the virus is constantly changing. These mutations occur over time and can lead to the emergence of new variants, such as Delta and Omicron, which meets the definition of Variants of Concern. This classification is based on how the variant responds to available therapies, clinical presentation of the disease, ease of dissemination, and protection by vaccines. Therefo-

re, using masks remains essential, as well as correct hand hygiene and avoiding crowds of people[28].

In relation to the training of food handlers aiming at the orientation of health care related to COVID-19, FS2 and FS3 performed this activity. The manager of FS2 could not report on the topics addressed, because the training was carried out by the outsourced company. The training of FS3 employees addressed topics on correct mask use, hand hygiene, and distance between employees. In FS1, there was no training with employees and the manager could not answer if this task was performed by the outsourced company. According to CBD Resolution No. 600/2018, it is the role of the Nutritionist to periodically promote the improvement and updating of employees through courses, lectures and related actions[29].

The use of personal protective equipment (PPEs) acts in the prevention of accidents and diseases in general and, at this time, the use of mask has become essential in the prevention of COVID-19, since it is a barrier that protects the individual against airborne contamination, mainly by coughing and sneezing of infected people. Furthermore, the use of masks, physical distancing, and hand hygiene, implemented in conjunction with educational measures, help combat the COVID-19 pandemic[15].

Regarding the symptoms guidelines of COVID-19 and communication on contamination by the worker, the three services reached a 100% adequacy score. The fight against COVID-19 begins with the awareness of employees; and in the three FS's there was instruction on the symptoms of the disease to make the employees able quickly identify the infection. Fever, cough, tiredness, muscle pain, shortness of breath, loss of taste or smell, were informed by the manager respondents as symptoms to be observed and reported to the company immediately. Next, the employees were instructed to seek healthcare services to perform the examination for COVID-19. However, the symptomatology of COVID-19 was expanded to include diarrhea, headache, sore throat, nasal/runny nose congestion, nausea, and anorexia, thus, composing the clinical manifestations observed in a possible infection by SARS-CoV-2[30].

If the clinical picture worsens, it is essential to go to the hospital to receive appropriate treatment. The other employees and contacts should be monitored to identify any presence of symptoms[31,32]. It is important to highlight that the university, where these FS's are located, has set up a Molecular Biology Diagnosis Testing Center (RT-PCR) for SARS-CoV-2, for employees and students of the institution, health professionals, and the population of the municipality in which it is located. This has facilitated the testing of these people.

In 67% of the FS's (FS2 and FS3) protocols were made for employees with suspected COVID-19 infection. According to the protocol established by both services, for employees who present fever and respiratory symptoms, it is required that they immediately depart from their activities and seek the nearest health service, in addition to communicating to the company and to the people with whom they have had contact[31]. On the other hand, FS1 (33%) did not report whether there is a protocol for suspected COVID-19. ANVISA recommends the development of protocols in the case of symptoms compatible with COVID-19 contamination and information on contact with infected or possibly infected people in order to prevent the transmission of the virus in the workplace[19].

Another inadequate result presented in Table 2 is related to the lack of protocols for employees in contact with infected people. The 3 FS's (100%) did not have this item, which represents a serious risk for transmission of the virus in the workplace. According to the Centers for Disease Control and Pre-

vention (CDC), being less than 6 feet from a person with confirmed SARS-CoV-2 infection or having direct contact with infectious secretions/excretions of the person with confirmed infection is a cause for concern. Thus, it is necessary to follow a protocol since work restrictions are recommended[31].

There are different levels of exposure. High risk is considered as when an individual has close and prolonged contact (15 min or more) with an infected person, and low risk is considered when the individual had brief interactions with a person infected with COVID-19. The recommendation of removal from the workplace varies if there is the use of PPEs at the time of exposure and if the vaccination schedule is complete[31,32]. Therefore, it is essential that the managers of the FS's develop protocols in which the transmission via contacting is anticipated and prevented.

Another important topic analyzed in this study concerns the leave-of-absence of employees due COVID-19. FS1 and FS2 (67%) did not present sick leave, however, more than half of the FS3 employees (33%) were on sick leave due to COVID-19 infection. Thus, this result reveals that FS3 may not be strictly complying with the main items for the prevention of COVID-19. This situation is probably a reflection of the failures that may be occurring in the workplace, so it is essential to have frequent trainings and dialogues to clarify concerns regarding the pandemic and the risks that employees assume when they fail to comply with the guidelines[14].

Physical distancing in the work area of the studied FS's

According to table 3, all FS's established a distance of 1.5 m among employees. According to Ordinance No. 2.645/2020, the application of this recommendation is considered important for the reduction of the dissemination of COVID-19. As the services studied have a small number of food handlers, there was no difficulty in fulfilling this requirement[33].

Regarding the scheduling of working hours, FS1 and FS2 (67%) established this procedure in order to reduce the number of people working at the same time and environment. Regarding the scheduling of lunch time, FS1 and FS3 (67%) claimed not to perform this measure and FS2 (33%) could not answer this question. However, in all FS's there are reports of physical distancing at lunchtime.

Ensuring physical distancing is paramount in working against the spread of COVID-19 to reduce the speed of transmission of the virus. Some contexts may increase the risk of infection by the SARS-CoV-2 virus, such as: environments with an agglomeration of people and spaces with inadequate ventilation, which end up concentrating viral particles[31]. Thus, drawing up plans to ensure the distance between employees to avoid confinement indoors and, especially, during lunch time, during which masks are not used, is essential[5].

Hygiene of hands, equipment, utensils, environment, and packaging of the studied FS's

When analyzing table 4, it was understood that only FS3 (33%) had washbasins exclusively for hand washing, thus acting to mitigate food contamination conditions. Hand hygiene is one of the simplest and most effective techniques that act in favor of Food GMP and, at the same time, against the dissemination of COVID-19. However, in the case of hand hygiene in the food preparation environment, it must be part of a sequence of conditions. For example, washbasins exclusively for washing hands with water, liquid soap, disposable paper or automatic drying equipment by airflow, 70% alcohol hand sanitizer, and the presence of hands-free trash bins must be installed[14].

Furthermore, FS1 and FS3 (67%) stated that they provided training to employees that emphasized proper hand hygiene. Thus, they demonstrated that most units are con-

cerned with the health of the workers and the clients, by teaching educational practices that emphasize guidelines on Good Food Practices, since the hygienic conditions of workers influence the quality of prepared foods, thus having an impact on health collective[2].

It was also observed that the sinks for the hygiene of utensils and equipment of all FS's were equipped with soap and sanitizers. These must be suitable for each purpose and comply with ANVISA standards. In addition, companies should provide products that best fit cleaning and disinfection processes and ensure that employees follow the necessary protocols[14].

There is a schedule to reinforce cleaning and disinfection of utensils in FS2 and FS3 (67%) and there was no such reinforcement schedule in FS1 (33%). This demonstrates an adequate adaptation of most FS's to the pandemic period. It is necessary to adjust the tasks of the employees responsible for cleaning and disinfection, directing them to increase the frequency of hygiene, so that the adaptation to the new reality occurs in the most satisfactory way possible[15]. Moreover, it is necessary to adapt the kitchen that had not yet adjusted to the pandemic period (FS1), since the reinforcement and cleaning schedule will increase sanitary hygienic quality, while preventing infection by SARS-CoV-2[19].

There was an increase in the frequency of sanitization of surfaces in all FS's. According to Technical Note No. 48 of 2020 (ANVISA), the procedures for sanitizing surfaces with greater frequency of contact, such as handrails and door handles, should be improved; thus, the compliance of this item in the cleaning processes was observed[14].

The packaging was sanitized before use only in FS2 (33%), while FS1 and FS3 (67%) did not clean the packaging before use. Since SARS-CoV-2 needs a living host to multiply, studies indicate that the virus cannot be transmitted through food or packaging, as it does not multiply on inanimate surfaces[34]. However, the hygiene of packages is a health recommendation of CBD No. 216/2004, as other microorganisms, such as bacteria, are deposited on the surfaces of packages and can contaminate the food after opening. Thus, this hygienic process is an important health safety practice to prevent foodborne illnesses[2].

Cafeteria and Exhibition of prepared food of the studied FS's

When observing table 5, all the FS's (FS1, FS2, and FS3) maintained the tables and chairs with a distance of 1.5m, complying with the standards and requirements established by ANVISA when establishing physical distancing and, thus, generating a smaller groupings[5].

It was also observed that all the FS's did not provide physical barriers in places of greater contact. Nevertheless, these places should take measures to reduce personal contact between both the external public and between them and employees when the minimum distance between people cannot be maintained. One way to ensure this practice is the installation of physical acrylic or glass barriers in high exposure locations, such as on cafeteria tables[35].

In 67% of the FS's (FS1 and FS2) there is the provision of informative posters on the care in the prevention of COVID-19 by the cafeteria, and FS3 had no awareness notices in this place, only in the production area and changing rooms. To facilitate communication and information, it is recommended that educational posters be set, containing information on the importance of hand washing, the mandatory use of the mask, how to dispose of it correctly, and the risks of crowds of people, thus promoting public awareness. Therefore, it is a visual communication resource that acts in an informative and awareness-raising manner, with the objective of

minimizing the spread of the SARS-CoV-2 virus and making the environment safe for professionals and clients[36].

According to the evaluated FS's, the cafeterias are 100% adequate concerning natural ventilation. This condition is considered adequate since it proposes to reduce the spread of COVID-19 indoors by providing air circulation, keeping the environment airy, because in these environments there is a greater chance of viral dissemination through respiratory droplets or aerosols. Environments with groupings of people represent a higher risk of contagion if they have inadequate ventilation. Since the cafeteria is a place that has significant physical contact between people from FS and the external public, it should be an environment with adequate ventilation[16,37].

Although the FS's presented non-compliances in some items, the changes observed in the sites fulfilled the guidelines of the current sanitary standards for the prevention of transmission of COVID-19. The changes mainly refer to the recommendation of the existence of sanitary protocols for the prevention of COVID-19, natural ventilation, reinforcement of cleaning, informative posters, and physical distancing. These practices are extremely important in reducing transmission of the SARS-CoV-2 virus and can ensure the safety of employees and clients. However, these results cannot be celebrated, because simple actions such as the installation of dispensers for 70% alcohol and training were not applied in all units, and other recommendations that have not been applied should be reviewed and implemented so that the prevention of the SARS-CoV-2 virus is guaranteed.

CONCLUSION

The research indicated an important degree of non-compliance in relation to the analyzed aspects, which impact workers' health. The healthcare recommendations given to the Food Services aim at public health, through the prevention of transmission of the SARS-CoV-2 virus, requires an effort on the part of the management of services to implement protocols, conduct of trainings, and monitor the health and conduct of their workers.

Therefore, it is concluded that it is necessary to take operational and corrective measures in order for the FS's to meet the requirements required by the legislation in the period of the COVID-19 pandemic, as a way to reduce the risk of infection among employees and diners.

CRediT author statement

Conceptualization: Medeiros, MGGA. Methodology: Medeiros, MGGA; Penha, MP; Lourenço, MS. Validation: Castro, LLG; Bezerra, CS; Medeiros, MGGA. Statistical analysis: Castro, LLG; Bezerra, CS; Penha, MP. Formal analysis: Castro, LLG; Bezerra, CS; Penha, MP; Medeiros, MGGA; Lourenço, MS. Research: Castro, LLG; Bezerra, CS. Resources: Medeiros, MGGA. Elaboration of the original draft: Castro, LLG; Bezerra, CS. Writing-revision and editing: Medeiros, MGGA; Penha, MP; Lourenço, MS. Visualization: Medeiros, MGGA; Penha, MP; Lourenço, MS. Supervision: Medeiros, MGGA; Penha, MP. Project management: Medeiros, MGGA.

All authors have read and agreed with the published version of the manuscript.

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Submitted: 08 february 2022.
Approved: 21 september 2022.
Published: 13 december 2022.