



## CASE REPORT

# COVID-19: contingency actions for the provision of meals to employees of a university hospital in southern Brazil

*COVID-19: ações contingenciais para fornecimento de alimentação a funcionários de hospital universitário do sul do Brasil*

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## Abstract

**Introduction:** The global pandemic for the new coronavirus has had repercussions in all areas of human activities. Health services are essential for serving the population. However, workers in this sector also deserve attention, the provision of meals being one of those precautions.

**Aims:** This study aims to publicize the actions related to the development of a contingency plan and the provision of meals to workers at a public university hospital in southern Brazil during the coronavirus pandemic.

**Methods:** Study design: descriptive observational. This case study evaluates for the period from March to June 2020 on the evolution of contingency plans in order to guarantee the provision of adequate food and preserve the health of workers in the cafeteria space.

**Results:** The hospital cafeteria served, on average, more than 2,500 lunches before the COVID-19 pandemic began in Brazil. Actions developed by the hospital administration allowed remote work by workers. However, an average of 1,500 lunches is still served daily. In this study, the actions are presented in order to guarantee an adequate environment that does not transmit outbreaks to workers in the hospital environment. Among some actions are issues of menu pattern, guidance, and mandatory handwashing by all users, visual signage on-site, and the internal website, among others.

**Conclusions:** The actions have been effective since there are no records of a COVID-19 outbreak among hospital workers.

**Keywords:** collective feeding; caution; hospital nutrition service.

## Resumo

**Introdução:** A pandemia global do novo coronavírus teve repercussões em todas as áreas das atividades humanas. Os serviços de saúde são essenciais para servir a população. No entanto, os trabalhadores desse setor também merecem atenção, sendo a provisão de refeições uma dessas precauções.

**Objetivo:** Este estudo tem como objetivo divulgar as ações relacionadas ao desenvolvimento de um plano de contingência e fornecimento de refeições aos trabalhadores de um hospital universitário público do sul do Brasil durante a pandemia de coronavírus.

**Métodos:** Desenho do estudo: observacional descritivo. Este estudo de caso avalia, no período de março a junho de 2020, a evolução dos planos de contingência, a fim de garantir o fornecimento de alimentos adequados e preservar a saúde dos trabalhadores no espaço do restaurante do hospital.

**Resultados:** O restaurante do hospital serviu, em média, mais de 2.500 almoços antes do início da pandemia de COVID-19 no Brasil. As ações desenvolvidas pela administração do hospital permitiram o trabalho remoto dos trabalhadores. No entanto, uma média de 1.500 almoços ainda é servida diariamente. Neste estudo, são apresentadas as ações para garantir um ambiente adequado que

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não transmita surtos aos trabalhadores no ambiente hospitalar. Entre algumas ações estão questões de padrão de cardápio, orientação e lavagem de mãos obrigatória por todos os usuários, sinalização visual no local e site interno, entre outras.

**Conclusões:** As ações têm sido eficazes, uma vez que não existem registros de surto de COVID-19 entre trabalhadores do hospital.

**Palavras chave:** alimentação coletiva; cuidado; serviço de nutrição hospitalar;

**Abbreviations:** ANVISA: Agência Nacional de Vigilância Sanitária; Covid-19: new coronavirus; CP: contingency plan; RS: Rio Grande do Sul; WHO: World Health Organization.

## INTRODUCTION

COVID-19 is an infectious disease caused by SARS-CoV-2 - a new coronavirus first identified in December 2019 in China. The disease is transmitted mainly from person to person through droplets in the nose or mouth that spread when a person with COVID-19 coughs, sneezes, or speaks [1].

By the end of June 2020, COVID-19 had already infected 10,18 million people and caused more than 503,862 deaths worldwide. In Brazil alone, 57,622 deaths were recorded according to official data from the beginning of the pandemic to the end of June [1]. Brazil has 27 states with a population of over 211 million people [2]. The state of Rio Grande do Sul (RS) is one of those 27 Brazilian states, being the fifth most populous, with an estimated 11.3 million inhabitants distributed in 497 cities [2]. In RS, the number of deaths from COVID-19 totaled 614 (1,06% of Brazilian deaths) from the beginning of the pandemic to the end of June.

RS was one of the first Brazilian states to take measures of social isolation for the population at the beginning of the second half of March 2020. At the beginning of May, the government of RS issued Decree nº 55.240 reinforcing the measures of controlled distance and creating a system represented by yellow, orange, red, and black flags providing for four levels of restrictions [3]. This measure was pioneering in Brazil.

For this, the RS was subdivided into 20 regions, and for each of the 11 consolidated indicators are evaluated in two large groups with equal weights in the final definition: a) propagation (speed of progress, stage of evolution and incidence of

new cases on the population); b) service capacity (which verifies the current service capacity and the panorama of changes in a service capacity) [3].

Hospital services are fundamental in the treatment of patients diagnosed and symptomatic by COVID-19. Health, and maintenance professionals who work in hospitals must have extra care in their activities. On the other hand, it is important ensure safe working conditions for these professionals, and also an adequate environment to eat meals during the day.

Therefore, this study aims to disseminate the actions related to the development of a contingency plan and the provision of meals to workers at a public university hospital in southern Brazil during the coronavirus pandemic.

## MATERIAL AND METHODS

The study design of this investigation is descriptive observational. This is a case study, referring to the period from March to June 2020. Changes in the routines for attending the lunch meal for workers at a public university hospital in southern Brazil were evaluated. The hospital has more than 800 beds and 6,000 professionals.

For that, the SES Ordinance No. 319/2020 of the state of RS was used as a parameter, which instituted a protocol of good practices to prevent the new Coronavirus from being complied with by the establishments that provide food services [4].

The choice for lunch results from the fact that this is the meal with the highest frequency (approximately 67%) of service users. The calculations considered absolute, average, and percentage frequencies. In addition, a description of the evolution of actions developed by the hospital cafeteria was made in order to guarantee the supply of meals in order to guarantee the health of workers.

## RESULTS

The cafeteria space for staff and resident doctors of the university hospital is 546 m<sup>2</sup>. Before the start of the COVID-19 pandemic and the contingency plan, the site had 85 tables distributed with 4 chairs, making a total of 340 seats. The lunch meal time was from 11 am to

2 pm. The monthly average of lunches was projected at 2,500 lunches per day. The standard lunch menu consisted of the options of a legume (beans or lentils); cereals (white and brown rice); a garnish; a protein dish of animal origin; (meat) three salad options and fruit for dessert.

Coping with the COVID-19 pandemic required systemic responses, with the adaptation of workflows and changes in the general functioning of the hospital. These general actions started on March 16. In the Nutrition and Dietetic Service, critical points were mapped for the continuity of operations with the objective of drawing up a contingency plan. For the elaboration of the contingency plan, two critical points were considered: 1) the number of employees diagnosed by COVID-19 or on leave due to another pathology, and 2) the availability of food and non-food inputs. From these points, the contingency plan was established with three levels of intervention, with level 3 being the most severe in relation to the two critical points.

In response to the possible lack of inputs and the absence of workers in the service, a review of the menus was carried out in order to prioritize the use of food that could be stored as non-perishable and frozen food and also in the form of preparation. In relation to the provision of the lunch meal, the contingency plan related to the menu provided for a structure following three levels. Level 1: two types of cereal (white and brown rice); a legume; one flesh; a garnish made with non-perishable products (e.g. pasta, polenta) or vegetables according to the availability of vegetables; a type of salad; and fruit. Level 2: unique protein preparation (like rice with carters, risotto, rice with drumsticks, pasta); a legume option; a garrison (same standard as level 1); a salad and fruit (if possible). Level 3: Maintained service and menu according to availability and institutional guidance. In the period evaluated, the situation always remained at Level 1.

In total, 112,634 lunches were served from March 16 to June 30 (working days only), with a daily average of 1565. For comparative purposes, in the months of March to June 2019, was served

218,937 meals (2,665 daily average on weekdays). This difference represents minus 48.5% of the number of services in relation to the latest year. This reduction can be explained mainly by the flexibility of the hospital management in allowing workers from administrative sectors to develop their activities in the remote mode and the suspension of academic activities.

For workers who remained in face-to-face work, several actions related to the use of the restaurant were developed and implemented and which had the support of the communication sector in the hospital's internal media, which started on March 16. The guidelines for access to the cafeteria published on the internal website of the hospital are described below.

- Hand washing is mandatory, at the entrance and at the exit.
- Always enter to the restaurant wearing a mask.
- Try to have your meal before 12:00 am after 1 pm, avoiding peak hours. The restaurant will be open from 10:45 am to 2:15 pm.
- Remove the facemask just to feed yourself. When you finish your meal, put on your facemask before you leave the table.
- When removing your facemask, do not put it directly on the table.
- Sit away from colleagues, respecting the rules of distance and markings on tables and on the floor.
- Avoid talking on the premises of the restaurant.
- Stay in the restaurant only as long as necessary to make your meal.
- Avoid bringing small bottles of water as the mouthpiece of the bottles can contaminate the cooler.
- The restaurant windows will remain open to ventilate the room.
- It is forbidden to wear a lab coat, uniforms for closed areas, uniforms for assistance areas and a stethoscope in the restaurant
- Follow the recommendations and collaborate with prevention!

In addition, several actions were carried out applicable in the restaurant space and which we highlight below. In the month of March: a) extension of 30 minutes more in the opening hours; b) placement of more alcohol gel dispensers; c) illustrative posters; d) spacing demarcation; e) demarcation of tables and removal of chairs. In April: f) increase in the distance from the tables; g) availability of ammonium quaternary to clean the tables; h) obligatory diners to wear a mask and remain with it until they finish serving their dish; i) changing shells, serving spoons and tongs every

30 minutes. In May, the following were included: j) cutlery for use by users individually packaged (**Figure 1**); k) placement of television monitors and totems in the cafeteria with information on care in that environment (**Figure 2**). In June: l) The positioning of the tables was changed to maintain greater distance between customers; m) plastic bags were offered for putting on a mask; n) trays placed in all buffet cars to leave the cutlery to serve; o) alcohol gel on all tables. The following images show some of these actions.



**Figure 1**– Actions on cafeteria: A): orientation poster at the entrance; B): packed cutlery.





**Figure 2** – Visual information. A) television monitor – “When arriving at the cafeteria pay attention”; B) “The hygiene of cafeteria equipment and utensils is enhanced during this period”; C): “Stay in the cafeteria only as long as necessary to make your meal”.

## DISCUSSION

To date, national and foreign authorities related to food health control indicate that there is no evidence of contamination by the new coronavirus through food [1]. However, as the virus can remain active for up to 72 hours on some surfaces, and restaurants and cafeterias are environments with a high potential for contamination [5], it is essential to comply with good practices in handling and distributing food in order to guarantee distribution of safe food to food service workers and users.

The concern of the public university hospital is that employees migrate to snack bars or other restaurants, where they would not have the same

conditions of good practices offered in the hospital cafeteria. Snack bars are small spaces that can be risky if many employees choose to meal in that environment at the same time. Likewise, the institution understands that it must minimize the number of employees in the assistance areas that circulate in commercial restaurants during the intervals of their working days.

Measures such as those adopted in the cafeteria of this public university hospital reduce the exposure of sources of contamination avoiding outbreaks of flu syndrome associated with COVID-19, as occurred in 40 companies and 10 closed institutions (long-term institutions and detention centers) in



the South Brazil, which presented 981 and 140 confirmed cases and 15 and 14 deaths respectively, from March to May 2020 [6].

Limitations in investigating infectious events in shared places for food, such as cafeterias or restaurants, hinder actions to prevent transmission [7]. In addition, individual care actions with others, personal hygiene care and hygiene of utensils, surfaces, and equipment, corroborate the reduction of human-to-human transmission in shared locations, as evidenced in an outbreak study caused by COVID-19, with a single primary case, conducted in a company in Germany, where a salt cellar shared by two users, in a company canteen, may have been the primary source of transmission [7].

For this reason, the World Health Organization, in its Guide to Food Safety, recommends some precautions that must be taken in the production and distribution of food. Recommendations for hand hygiene, distance, cough etiquette, tracking infected and disinfecting surfaces are common to all scenarios. Specifically, for cafeterias and restaurants, the guide emphasizes the need for hygiene in counters and objects such as serving utensils and spices, in addition to educational measures to reinforce hygiene and distance between users and workers [5].

In line with the standardization of guidelines published by World Health Organization, the National Health Surveillance Agency in Brazil published Technical Notes to be applied during the COVID-19 pandemic that deals with safe food production and direct customer service, considering the physical distance, physical barriers, the layout of the environment, tables and positioning of people, and stricter procedures for hand hygiene and surface disinfection (8-9). Similarly, the Organization that represents the proven bars and restaurants segment has developed material with these guidance rules, through a booklet, for its members (10).

In order to guide and have the adherence of the cafeteria goers, on the actions implemented according to the guidelines of National Health Surveillance Agency, various means of communication were used, such as posters, totems,

television monitors, and table displays. Specific, simple, clear, objective messages were placed in the appropriate places and that made sense for good communication. It is also necessary to modify the newsletters routinely so that the regulars do not fail to notice them after a certain period because they are already used to the guidelines (11).

The risk of transmission of COVID-19 through surfaces is high in hospital environments, so it is essential that actions aimed at reducing the maximum possible transmission routes are implemented, otherwise, the establishments must be vigilant in their practices according to the guidelines of the regulatory bodies, preventing outbreaks in hospital cafeteria.

## CONCLUSIONS

The elaboration of the contingency plan was essential to guide the necessary measures to face the crisis imposed by the pandemic. Planning based on critical points allowed the service to be maintained with quality and safety for users.

The challenges imposed by a large hospital food service for this new reality include providing correct information on the risks of contagion with the new coronavirus, implementing preventive actions, and ensuring that food arrives safely to workers. The strategies used by the service allow the service to be maintained with quality and safety for users.

## Notes

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### Conflicts of interest disclosure

The authors declare no competing interests relevant to the content of this study.

### Authors' contributions.

All the authors declare to have made substantial contributions to the conception, or design, or acquisition, or analysis, or interpretation of data; and drafting the work or revising it critically for important intellectual content; and to approve the version to be published.

## Availability of data and responsibility for the results

All the authors declare to have had full access to the available data and they assume full responsibility for the integrity of these results.

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