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Street food: food handlers profile and their needs knowledge about business management and good handling practices

Comida de rua: perfil dos manipuladores de alimentos e necessidades de conhecimentos sobre a gestão do negócio e boas práticas de manipulação

Abstract

Introduction: The Consumption of street food has increased in recent years, transforming this segment into an important food trade, with job and income. **Objective:** This work aimed to know the socioeconomic profile and analyze the perception about business management and good handling practices of street food handlers in the city of Niterói/RJ, participants of an online course on good handling practices in the food trade. **Methods:** The methodology was applied and descriptive, with a qualitative and quantitative approach. An online questionnaire was used, with 56 questions, applied to 67 course participants. **Results:** 86.4 % were women; predominant age group between 27 and 62 years; average income of up to 3 minimum wages; 35.8 % reported having incomplete higher education. Only 29.9 % have a MEI record; 72.7 % work in this trade by choice; 46.3 % carry out inventory control and 62.5% carry out cash control; 67.2 % have courses in the field of food; and 47.8 % claimed to have previous experiences. **Conclusions:** As the consolidation of this segment is observed, with a potential associated health risk, as well as the lack of scientific work in this area, it is necessary to expand studies on the training of handlers.

Keywords: Street food. Food safety. Collective Food.

Resumo

Introdução: O consumo de comida de rua tem aumentado nos últimos anos, transformando este segmento em um importante comércio de alimentos, com geração de emprego e renda. **Objetivo:** Este trabalho teve como objetivo conhecer o perfil socioeconômico e analisar a percepção sobre a gestão do negócio e boas práticas de manipulação dos manipuladores de comida de rua no município de Niterói/RJ, participantes de um curso *on-line* sobre boas práticas de manipulação no comércio de comida de rua. **Método:** A metodologia foi aplicada e descritiva, de abordagem qualitativa e quantitativa. Foi utilizado questionário *on-line*, com 56 perguntas, aplicado a 67 participantes do curso. **Resultados:** 86,4 % eram mulheres; faixa etária predominante entre 27 e 62 anos; renda média de até 3 salários mínimos; 35,8% relataram possuir ensino superior incompleto. Apenas 29,9% possuem registro MEI; 72,7% atuam nesse comércio por escolha; 46,3% fazem controle de estoque e 62,5% fazem controle de caixa; 67,2% possuem cursos na área de alimentação; e 47,8% afirmaram ter experiências anteriores. **Conclusão:** À medida que se observa a consolidação desse segmento, com um potencial de risco sanitário associado, assim como a insuficiência de trabalhos científicos na área, faz-se necessário ampliar os estudos sobre a formação dos manipuladores.

Palavras-chave: Comida de rua. Segurança dos alimentos. Alimentação Coletiva.

INTRODUCTION

It is notorious, throughout Brazil, the growth of the street food trade, associated with the increase in the consumption of food outside the home, according to data from the 2017-2018.¹ This data is consistent with the Food and Agriculture Organization (FAO) document, which points out that, worldwide, about 2.5 billion people consume street food, making this commercial segment responsible for a significant portion of the food supply of the urban area, especially for the low-income population.²

Conceptually, street food is food sold for immediate consumption, prepared and/or sold by food handlers on the streets or public places. It is an unregulated activity whose informality has involved approximately 44 million Brazilians³ who are characterized as food handlers, since they come into direct or indirect contact with the food, from its origin to the time of sale, playing an important role throughout the production chain.⁴

According to a study conducted by FAO (2021), in Latin America and the Caribbean, the street food trade accounts for 20 to 30% of urban household spending and the sector is an important source of employment.⁵ This data is corroborated by the study conducted by Brinkley, who verified the growth of this segment, being presented as an option to ensure the livelihood of many in the current economic scenario.⁶

The street food market also shows that the labor force in this sector is mostly made up of women, due to the difficulty of entering the formal labor market.⁷ Another fact regarding the female population is the increase in the number of women becoming heads of households. Data available from the Institute for Applied Economic Research (IPEA) showed an increase from 37.3% to 40.5%, between the years 2010 and 2015, of women who began to take on this role in the family.⁸ Thus, these data show the importance of this segment for women who still have challenges in entering and remaining in the labor market.⁹

Street food also contributes to tourism, through the commerce of typical foods of the local culture, strengthening the regional food history, besides adding other aspects: representing a fast food preparation option in relation to the formal restaurant; being located in easily accessible sales points, near work or the place of study; often, from the nutritional point of view, contributing to the daily intake of nutrients and energy for those who consume it.²

However, the World Health Organization (WHO) has identified the benefits and problems associated with street food. While the socioeconomic and cultural importance of the informal market is recognized, there is concern about the potential danger of these foods to Food and Nutrition Security (FNS), especially with regard to their hygienic-sanitary quality.¹⁰

Foodborne diseases, are related to the consumption of contaminated food and water, and have a very high occurrence in the street food trade. With population growth, greater availability of ready-to-eat foods exposed on public streets, lack of training of professionals who handle these foods, and also the lack of enforcement, a considerable increase in the incidence of these diseases has been observed.¹¹ Between the years 2016 and 2019, 626 outbreaks of foodborne diseases were reported in Brazil, affecting 37,247 people (average of 9,312 cases per year).¹²

The inadequate practices during the food production process, the vices acquired over the years, as well as the lack of knowledge or compliance with the legislation, increase the risk of contamination and the occurrence of ATDs. In view of this, it can be seen how training plays a key role in food handling, since the professional participates in all stages of production, and thus can offer a product with guaranteed safety.¹³

The importance of training handlers is to integrate theoretical and practical knowledge, seeking the development of specific work skills in the food area. The continuity and planning of education are important

to provide the support of qualified, satisfied, and stable personnel. It is known, however, that training these food handlers is not a simple activity, considering the resistance of some employees to changes in conduct and behavior, because some inappropriate practices are also related to cultural factors, not only of the handler but also of the consumer.^{14,15} It is important to emphasize that developing training in cooperation with vendors' trade associations, when they exist, or even with the participation of non-governmental organizations and the private sector, facilitates and stimulates action.

Thus, based on the above, this work aimed to know the profile of the street food handlers in the city of Niterói/RJ, and to analyze the perception about the management of the labor activity and about the good handling practices.

This research is considered relevant for dealing with a topic of interest to Public Health and for contributing to the debate about the training of self-employed workers and the development of public policies for the street food trade segment.

METHOD

The research methodology was applied and descriptive, with a qualitative and quantitative approach.¹⁶ The target audience were the handlers of the street food segment, producers and sellers of sweet and savory preparations, ready to eat, residents in the city of Niterói/RJ, participants in an online course of professional training, of extension character, promoted by an inter-institutional working group linked to a federal public university, public agencies and a private university, in the period from August 2020 to September 2021.

The referred course contemplated 250 people, but only 67 accepted to participate in the research at the moment of enrollment. The participants were street food handlers who were previously contacted through the Casa do Artesão, a sector of the city hall of Niterói/RJ, which regulates the presence and activity of these workers in the city's gastronomic fairs. The participants answered a questionnaire in Google Forms format, sent to the e-mail informed when they registered for the course. The questionnaire included open and closed questions about: i) socioeconomic aspects; labor aspects, such as time of activity, motivations for work, place of production, place and form of commercialization; ii) perception about the business management, such as financial and material controls; training course in the area and knowledge about good handling practices, totaling 56 questions. The telephone and electronic contacts of the researchers were made available in the ICF (Free and Informed Consent Form) that was attached to the questionnaire, with the orientation that the participants should contact them in case of possible doubts about answering the questionnaire.

The data were statistically treated from a semiquantitative perspective, to determine whether there is a relationship or agreement between the records of the questions in the blocks, considering that each question can be considered an ordered nominal variable. And to verify the association between variables, these data were evaluated by exploratory descriptive statistics, through the frequencies of the variables analyzed and Fisher's exact test, considering a 5% significance level ($p < 0.05$).

The project was approved by the Research Ethics Committee of the Faculdade de Medicina da Universidade Federal Fluminense (CEP-FM/UFF), under Certificate of Ethical Appraisal Presentation (CAAE) No. 46526521000005243.

RESULTS AND DISCUSSION

Sample characterization

The audience participating in the course for food handlers was composed of people with a mean age of 43 years (P50), ranging from 18 to 80 years, mostly women (85.1%), with family income predominantly between the ranges of economically active population (EAP), according to the classification of the Brazilian Institute of Geography and Statistics (IBGE) 2020,¹⁷ between R\$ 1,908 and R\$5,724. Regarding the level of education, the largest portion of participants (35.8%) reported having incomplete higher education. The consolidated data are presented in Table 1.

Table 1. Distribution of food handlers studied according to socioeconomic data. Niterói, RJ. 2021.

Variables	Categories	Frequency	%
Gender			
	Female	57	85,1
	Male	8	11,9
	LGBTQI+	1	1,5
	Didn't want to answer	1	1,5
Age Group			
	18 - 26	11	16,42
	27 - 62	49	73,13
	63 - 80	7	10,45
Level of Education			
	Up to Full Elementary School	1	1,5
	Up to High School Complete	10	14,9
	Incomplete Higher Education	24	35,8
	Higher Education Complete	14	20,9
	Post Graduation	18	26,9
Average Family Income			
	Up to R\$1.908,00	18	26,9
	From R\$1,909, 00 to R\$2,862.00	18	26,9
	From R\$2.863,00 to R\$5.724,00	20	29,9
	From R\$5.725 to R\$9.540,00	5	7,5
	From R\$9.541,00 to R\$14.310,00	3	4,5
	Above R\$14.311,00	3	4,5

Source: Own authorship, 2021

Economic and sociodemographic parameters of the participants

According to data published by IBGE (2020),¹⁷ the service sector, in which the food trade is inserted, has been growing economically in recent years. In this sector, most jobs are considered informal, making up a significant part of the jobs nationwide.

The street food handlers are mostly inserted in the informal market. The service jobs created by this market contribute to income generation and the reduction of poverty conditions of the

population, but this informalization generates a large contingent of workers without access to social protection services that are linked to the formalization of work.

The result that demonstrates the greater participation of women in the street food trade in the survey conducted is corroborated by the study developed by Lobo and collaborators, who found that most of the respondents in this segment were female workers.¹⁸ This result is compatible with that found in the literature, which demonstrates that in Latin America women are the majority both in the trade and in the preparation of street food.¹⁹

In 2019, 39.3 million people were in informal occupations, which represented 41.6% of the employed population, and of these occupations, the ones that have been growing most are those of self-employed workers who are not contributors to the National Institute of Social Security (INSS).¹⁷

Still in 2019, the data show that the average income in Brazil was R\$1,406, and in the Southeast Region, R\$1,720, considered one of the highest incomes in the country.¹⁷ It is worth noting that in the last National Household Sample Survey (PNAD), in 2020, 61.0% of the population had an average monthly income of up to R\$2,213, received from all sources of work, calculated for all people aged 14 years or older, who were occupied during the period of the survey. Considering that the workers who participated in the survey work in the informal market and the largest group reported having an income of up to R\$2,862, the results converge with the data released by the IBGE.

Research also shows the growth in the educational level of the population aged over 25 years between the years 2016 and 2019, when the number of people with complete high school education or incomplete higher education increased.¹⁷ In the study by Hossen and collaborators, the results indicated that the level of knowledge of the participants was considered higher, and that this level of education of the handlers generates a great impact on the awareness of knowledge regarding food safety. This also shows that the street food trade has been representing a segment for people who are looking for new alternatives to get into the labor market.²⁰

Regarding entrepreneurship, 70.1% responded that they were not registered as Individual Micro-entrepreneurs (MEI) (Table 2). Most work in the street food business by choice (72.7%), while the others allege lack of opportunity in the formal market. When asked about the place of production of the food preparations, 65.7% produce in their own kitchen and the others use a kitchen outside their residence and/or an industrial kitchen. In relation to the structure used for commercialization, 46% informed they use a mobile structure, 44% a fixed structure, and 10% use both types. As for those who do stock control, the distribution was 46.3%, while for cash control it was 62.5%. Ferreira states that, although many processed foods are gaining space with the informal vendors, most of them still do the preparation entirely in their own kitchens, and in some cases the pre-preparation is done at home, and the finalization at the time of commercialization.²¹

Typically, the street food commerce in Brazil occupies the most varied spaces, which depend on the context of the city. The marketing structures can be fixed or mobile, although many are considered temporary points, which can become fixed, due to the tradition that is formed, being generally marketed typical foods of the region.²¹ These data converge with those obtained in the research, because although most have mobile marketing structures, they always occupy the same place, becoming fixed in that space.

The creation of benefits both in the sanction of the General Law of the Micro and Small Company (Complementary Law 123/2006), and later, of Complementary Law 128/2008, which regulated the Individual Micro-entrepreneur; stimulated the development and competitiveness of companies, contributing to the reduction of informality (self-employment or autonomous work, without employment ties), with the generation of jobs, increased income distribution, social inclusion and strengthening of the economy.^{22,23}

Data from the report of the Technical Office of Economic Studies of the Northeast points out that, in 2021, there were 18.3 million small businesses in Brazil, of which 60% were individual micro-entrepreneurs and the rest were micro and small businesses.²⁴ Despite the strong trend in the increase of MEI registrations in Brazil, it was observed that for the audience of this research, the number of people working informally is still large. This fact can be explained by whether the respondent is an entrepreneur or an informal employee. Studies indicate that among the difficulties and impediments presented by informal workers to register as individual microentrepreneurs are the lack of information and knowledge of the laws, the obligation to pay taxes, labor costs for hiring, and lack of freedom and flexibility regarding working hours for employees.²⁵

About the profile of entrepreneurs in Brazil, according to the Global Entrepreneurship Monitor (GEM) survey, in 2020, despite the pandemic, there is some optimism about entrepreneurship, because compared to 2019 there was an increase from 30% to 53% of the rate of Brazilians intending to open a business in the next three years, being the highest proportional increase compared to all other economies participating in the survey.²⁶

The Covid-19 pandemic that began in December 2019 caused several changes in the population's eating routine.²⁷ Eating away from home Food outside the home, including street food, needed adaptations to face the challenges caused by social distance and the consequent reduction in the movement of people. Thus, the use of delivery applications for ready-to-eat food through delivery and take-away has intensified, enabling entrepreneurs to continue selling their products. In this context, with the growth of delivery, 68.5% of participants reported using this type of service.

Regarding the perception about Good Food Handling Practices and experience, most participants reported already having knowledge about the subject (73.1%), and also having courses in the food service area (67.2%), but in relation to previous experience, approximately half of the group did not have any (52.2%). Regarding the length of time working as a food handler, 54.8% of the participants reported having two years or less of experience in this activity (Table 2).

Good Manufacturing Practices for Food Services are procedures set forth in the Collegiate Directive Resolution Board Resolution RDC 216/2004,⁴ aiming at the hygienic-sanitary quality of the food produced. A study conducted by Hossen and collaborators²⁰ concluded that despite knowledge about good manufacturing practices by food handlers in the street food segment, practices were not adequate and needed improvement. In the study conducted by the group, most participants said they knew about good practices and had taken a course on the subject, but most had no previous experience in the area.

It is worth mentioning that in the city of Niterói/RJ, where the research was developed, there is no regulation for the marketing of street food, as in other municipalities of the federation²¹ and, therefore, there is no obligation for courses of Good Food Handling Practices. However, in

order for the handler to offer a safe food, it is interesting that he has knowledge of good practices in this segment, based on the current federal legislation, DRC n° 216/2004, which provides for Good Practices Technical Regulation for Food Services.

Table 2. Knowledge and conditions regarding food handling. Niterói, RJ. 2021.

Variables	Categories	Frequency	%
Register MEI			
	Has	20	29,9
	Don't have	47	70,1
Previous Experience			
	Has	32	47,8
	Don't have	35	52,2
Courses in the Area of Food			
	Has	45	67,2
	Don't have	22	32,8
Time of acting as food handler			
	até 12 meses	20	29,9
	13 - 48 meses	16	23,9
	> 48 meses	31	46,3
Perception of knowledge about Good Practices*			
	Yes	49	73,1
	No	18	26,9
Good Practice Training *			
	Has	30	75,0
	Don't have	10	25,0

Source: Own authorship, 2021

*By Good Practices, we mean the provisions of the current legislation on Good Practices for Food Services (RDC n°216/2004)

These data demonstrate that this public seeks to train themselves, to offer a product with more quality and safer from the sanitary point of view. Some courses are offered free of charge, but there is a great limitation on the number of vacancies offered. In the last two years, due to the Covid-19 pandemic, there has been an increase in this demand for vacancies, due to the provision of courses remotely. These courses are usually offered by the Brazilian service of Support for Micro and Small Enterprises (SEBRAE), Health Surveillance Agency (ANVISA), and public agencies such as municipal governments. World Health Organization (WHO), through the Pan American Health Organization (PAHO) since 2020, has also promoted Good Handling Practices courses online and free of charge, with the aim of offering a healthy and safe diet. The course is aimed at food handlers from around the world. In general, the courses are in the distance learning system, with a workload ranging from 4 to 12 hours.²⁸⁻³¹

Association between economic, sociodemographic and perception of knowledge about Good Practices of participants

The association between gender and the place of marketing of products ($p = 0.013$) shows that women tend to opt for places of fixed structure for marketing, such as fairs and their homes, while men beyond trade at points of fixed structure, also use the structures considered mobile (food truck, bicycles, cars). Lôbo and collaborators report that one of the biggest difficulties of the street food trade is urban violence, in addition to the transport of material for work, which makes it women are more likely to suffer from these difficulties.¹⁷

Table 3. Correlation analysis* among the Variables analyzed in the study. Niterói, RJ. 2021.

Analysis	Value of p
Gender x Place of commercialization	0,013
MEI x Time of acting	0,016
Courses in the area of food x Previous experience	0,005
Knowledge of Good Practices x Previous experience	0,002
Cash Control x Inventory Control	0,039

* By Fisher's Test significant correlation at the 5% level ($p < 0.05$).

Source: Own authorship, 2021

Regarding the association between the registration as MEI and the time of operation in the market ($p = 0.016$), it is observed that the longer the time of operation as a food handler, the greater the chances of having this active registration. This may indicate that these manipulators, over the years and experience, seek the formalization of their business. According to research by SEBRAE, micro-entrepreneurs who were informal spent on average 10 years in informality; and among the main factors that lead them to seek formalization are the possibility of issuing invoices and negotiating for purchase with suppliers, access to social security benefits and the possibility to grow more as a company.³²

It was possible to observe the relationship between courses in the area of food services and experience, and knowledge in Good Handling Practices and previous experience ($p=0.005$ and $p=0.002$, respectively). Both associations may indicate that these professionals seek the improvement and improvement of labor practices, by obtaining greater knowledge, according to the years of experience. The more experience time street food handlers acquire, the more they understand the need for knowledge in Good Handling Practices and conducting courses in the area, as they come to understand that this will affect the quality of the product offered to the customer, beyond the risks that improper handling can offer to health.¹⁷ This awareness of the risks that food handling can bring was also observed by Hossen and collaborators, who found that all street food vendors knew that good personal hygiene could prevent DTA on the customer.²⁰ In this same study, the authors found a positive relationship between higher level of education of vendors and greater knowledge about food safety.

The association between cash control and inventory control ($p= 0.039$) shows that when these traders already have the habit of doing cash control, they tend to do this inventory control as well. The control of financial resources is important for moments of business growth, or even for moments of crisis, as in recent years, because in the shortage of cash flow, the worker will need to plan to adapt his stock, knowing the

limitations he will have.³³ For this reason, it is important that the handler is able to do the cash control along with the stock control.

In some cases, the data suggest an association between the blocks, such as the relationship between cash control and family income ($p=0.055$), and the reason for being in the market and the time working as a handler ($p= 0.052$). Although it is not possible to affirm the association from a statistical point of view, we can consider important points in the characterization of the profile of these handlers.

The regulation of street food in Brazil, which today belongs to the informal sector, deserves attention as a Public Health issue. In the food area, the National Health Surveillance Agency is the agency responsible for the coordination, supervision and control of the activities of registration, inspection, surveillance and control of health risks. The Agency establishes norms and standards of quality and identity to be observed, through the publication of resolutions that can be applied to the handling and trading of food in general, but there is not one that specifically contemplates the commercialization of street food. With the decentralization process of the health system, the municipal Health Surveys are responsible for the organization and practice of sanitary control, but the lack of training and the scarcity of financial and human resources make its execution difficult, especially in small municipalities.³⁴

Currently, there is no consensus on the use of the term "street food", which makes it difficult to standardize the determinations for this segment of food outside the home. A survey conducted by Brazilian regions indicated that not all states or municipalities have regulations for the marketing of street food; some of them use other terms that make reference, such as "street commerce" or deal with specific services such as food truck and gastronomic fairs.²¹ In the city of Niterói/RJ, the operation of gastronomic fairs and food trucks is regulated by the Secretariat of Public Order, through the Municipal Law No. 2624 of December 29, 2008.³⁵

The outlook for food outside the home, despite the impacts of the Covid-19 pandemic, is good, according to the report of a study conducted by Food Consulting and released by SEBRAE. Overall, 69% of consumers intend to return to eating out within two months and 74% intend to eat the same or even more often than before the pandemic. In addition, among the main decision factors for choosing the place of consumption are the feeling of cleanliness and hygiene and the accessible/affordable price.³⁶

Thus, the street food, despite belonging to the informal market, has great potential to be the target of demand for food outside the home, because it is possible to find these two factors of choice by the consumer. For this, it is important to note that the good management of the business - including its formalization, providing economy in the acquisition of goods and choice of suppliers, thus reducing the cost of production - allows the entrepreneur to apply more affordable prices, and ensure their profit, maintenance and quality of services to the clientele served. Allied to this, the qualification and constant training of food handlers are able to meet the demands of hygiene and cleanliness by the consumer, since this practice contributes to food safety.

From the results obtained with this study, it was found that the street food segment has a social character as it is configured as a way to obtain income and often the only means of support for workers and their families. Therefore, it deserves attention from the government to provide these people with public policies that encourage formalization, and thus the guarantee of social rights.

FINAL CONSIDERATIONS

With this work, it was possible to know the socioeconomic profile of the public and the reality about the experience and business management of street food handlers in the city of Niterói, agreeing with the findings in the literature. Although training and capacity building deal with standardization of procedures and practices, it is important to remember that street food reflects the regional cultural identity of a place or collectivity. Therefore, the implementation of public policies that regulate this segment, as well as educational programs, must respect the particularity of each place where street food is inserted, preserving its history and cultural characteristic.

As we observe the consolidation of street food, the potential health risk associated with this trade, as well as the insufficiency of work in this area, it becomes necessary to expand the fields of study on the training of street food handlers, in addition to the greater social inclusion of trained traders, making them more competitive in the market and ensuring the safe consumption of these foods by the population

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Medeiros MGGA creator and coordinator of the project. Participated in the planning and organization of fieldwork, orientation of students and review of the final work. Corrêa ISC and Annunciation IF participated in the collection and analysis of the data and writing of the manuscript. Lourenço MS participated in the review and approval of the final version. Penha MP participated in the orientation of the students, analysis and interpretation of the data and review of the final work. Castro JSM was the creator of the project. Participated in the preparation and testing of questionnaires, analysis and interpretation of data, review and approval of the final work. Freignan E participated in the preparation and testing of questionnaires, analysis and interpretation of data, review and approval of the final work. Fonseca ABM participated as advisor and executor of the statistical model; guidance in the analysis and interpretation of the data.

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