

Description of the Street Food Trade in Belo Horizonte-MG, Brazil

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Abstract

Objective: Characterize the socioeconomic profile and assess the hygienic-sanitary conditions of itinerant food trade in eastern Belo Horizonte-MG, Brazil. **Methods:** Cross-sectional, exploratory, observational and descriptive study. Sixteen itinerant food vendors were interviewed and data collection was based on a structured interview and application of a checklist. **Results:** 62.5% (n=10) of the vendors were men; most were 18-30 years old (50.0%; n=8); family income of one minimum wage (68.8%; n=11); single (56.3%; n=9); and had 1-3 children (37.5%; n=6). The most incident service time in itinerant trade was between 1 and 5 years (37.5%; n=6). The interviewees stated that they had chosen itinerant trade because of they lacked the qualification required by formal labor market (43.8%, n=7); and, among the difficulties they faced in this activity, 75.0% (n= 12) reported urban violence and fear. Concerning hygienic-sanitary conditions, the weaknesses are the use of lidless garbage bins (31.2%; n=7), homemade mayonnaise (56.3%; n=9), ice produced from non-potable water (56.3%; n=9), non-use of appropriate equipment for cold conservation of foods (50.0%; n=8), and low level of training in food handling (50.0%; n=8). **Conclusion:** It can be observed that the older age, poor schooling and belonging to poor families, added to the growing demands of the formal market, encourage the inclusion of workers with this profile in informal activities such as street trading. Furthermore, some inappropriate aspects were evidenced in handling and trade of street foods, demanding the vendors' training and the creation and implementation of specific legislation for this type of trade, aiming at Food Safety.

Key words: Labor Market. Food. Health Surveillance. Food Handling. Street Food. Socioeconomic Factors.

Introduction

The term “street food” is used to designate ready-to-eat foods and beverages, prepared and sold in the streets and other similar public places, to be consumed immediately or later.¹ Such foods are typically low-cost, familiar, convenient and easily accessible.²

The street food industry is part of the informal labor market, constituting part of the food supply chain in urban and peri-urban areas, especially in developing countries.³ Over the years, street food trade has been consolidated as a survival strategy because it minimizes most of the main structural problems of urban centers, contributing to increase job opportunities, especially for women; it ensures income to socially-excluded groups; reduces poverty and improves the quality of life; boosts local economy.³ According to Kishwar,⁴ the higher the unemployment rates and unplanned urbanization, the greater the amount of street vendors and peddlers. Bryan⁵ also attributes the growth of this sector to factors such as tax exemption, freedom to select the foods to be sold, working time, low initial capital and few regulations.

About 2.5 million people over the world are street-food consumers, which makes this business responsible for a significant portion of the foods supply chain in urban areas, especially for low-income population. Some street food businesses have also contributed to tourism by offering typical dishes of the local culture and strengthening the regional eating habits.⁶

One of the key attributes of the food or meal quality is its hygienic condition, an indication of the characteristics of the raw material and the production processes used.⁷ Efficiency of the food hygienic quality control is based on the conditions of physical, chemical or biological control factors, which may contribute to the contamination, survival and multiplication of microorganisms that cause foodborne diseases.⁸ Street foods are not covered by a safety or harmlessness warranty. Dishes are assembled on the spot with pre-made foods that have been exposed to environmental contamination (dust, wind, sun), most of them stored in unrefrigerated plastic containers and without proper infrastructure (lack of drinking water, sewage network) and by vendors that handle foods unknowing the good practices of food handling. In this context, foods trade in public spaces poses a serious threat to the consumers health and has become an issue of key importance to public health.⁹

This study aimed to determine the socioeconomic profile and hygienic-sanitary conditions of the street foods trade in the eastern region of Belo Horizonte-MG.

Materials and Methods

This is a cross-sectional, exploratory, observational and descriptive study in which the socioeconomic profile of mobile vendors was evaluated through a structured questionnaire.¹⁰ Data such as educational level, household income, former occupation, service time, option for the mobile trade and difficulties they have in this activity, among others, were obtained. To assess hygienic-sanitary conditions, a checklist was used, prepared according to Amson,¹⁰ Resolution no. 275,¹¹ Resolution no. 216,¹² and Mallon & Bortolozo.¹³ Assessment of the hygienic-sanitary conditions in the foods production covered topics that were organized into four blocks: environmental conditions (characteristics of the vending place, location, pests control, wastes management, lighting and wiring and supply of drinking water); foods handling (identification of raw materials, ingredients and industrial products, turnover and storage); vendor's personal hygiene (clothing, hygiene habits, health condition and training program for food handlers and supervisors); and utensils, equipment and carts (food handling utensils and equipment, cleaning of utensils and equipment carts, the place where carts are kept and carts cleaning).

Data were analyzed descriptively, based on the variables of foods handling practices, hygienic-sanitary conditions of the places where foods are prepared and sold, and wastes disposal.

The study was approved by the Research Ethics Committee of the Federal University of Minas Gerais under process no. 0087.0.203.000-10.

Results and Discussion

Of the street vendors interviewed, 62.5% were men (n=10) and 37.5% women (n=6), this being the only activity of both sexes (1%; n=16). In a study conducted by Amson¹⁰ with 17 food mobile vendors in Curitiba-PR, Brazil, most of the sample vendors were also male. The same occurred in the city of São Paulo.¹⁴

The majority of the vendors were 18 to 30 years old (n= 8; 50.0%), having household income of one minimum wage (68.8%; n=11), single (n=9; 56.3%), and with 1 to 3 children (n=6; 37.5%). Pamplona¹⁴ defined and analyzed the evolution of the number and characteristics of informal workers in the mobile business in the city of São Paulo and found a household monthly income of up to three minimum wages and predominance of very young individuals (less than 25 years) and older (40 years old or over).

Among the key factors related to the difficulties that workers have to enter the labor market, low formal education is the main one. It was found that none of the respondents had a higher education degree, and that 31.3% (n=5) of them have not completed the primary school. Similar data were reported by Amson¹⁰ and Pamplona.¹⁴

Time of service in the mobile trade activity ranged from six months to 15 years, with highest incidence in the period of 1-5 years (35.3%; n=6). The respondents reported that they decided for the mobile trade because of the following: no qualification is required by this market (43.8%; n=7); identification with this activity (25.0%; n=4); possibility of better income (25.0%; n=4); saturated formal labor market (6.3%; n=1). When asked about the difficulties found in this activity, 75.0% (n= 12) mentioned urban violence and fear. Such feeling can be explained by the fact that some street vendors do not have a food sale permit. Working time of the mobile street vendors interviewed was of approximately eight hours/day.

The informal mobile food business is of key economic, social and cultural importance, both for those who sell and/or prepare this kind of food and those who consume it.¹⁵ Because they are exposed to a wide range of contaminant elements, street foods sold require extra care in handling to avoid contaminations that are harmful to the consumers' health.¹⁶

Tables 1, 2 and 3 characterize the hygienic-sanitary conditions of mobile food trade in the eastern zone of Belo Horizonte-MG, including environmental conditions, foods handling and cleaning of utensils, equipment and transport carts.

According to the results obtained, it was found that regarding the preparation of the street foods, the infrastructure adopted by the vendors in general corresponds to three situations: foods are prepared at home; foods are prepared in the street; foods are pre-made at home and completed at the site; vending places are close to bus stops and parks. The mobile food structure has the following main weaknesses – and, therefore, does not meet current law requirements: use

of lidless waste bins (31.2%; n=7), homemade mayonnaise (56.3%; n=9), ice produced from non-potable water (56.3%; n=9), non-use of proper equipment to preserve the food by cold (50.0%; n=8) and lack of training in the area of foods handling (50.0%; n=8).

It is known that poor hygiene habits of most mobile vendors, lack of potable water, of proper areas for waste disposal, public toilets, and foods refrigeration, favor contamination and spoilage of street foods and enhance pests proliferation.¹⁷

Table 1. Environmental conditions of mobile food trade in the eastern region of Belo Horizonte-MG, 2014.

Assessed items	Conformity (%)	Nonconformity (%)
Vending place close to a bus stop	50	50
Vending place close to city parks	50	50
Area free from unused objects	81.3	18.7
Absence of vectors and pests	93.8	6.2
Availability of lidded waste bins	68.8	31.2
Availability of electrical outlets	43.8	56.2
Availability of potable water reservoirs	93.8	6.2

Table 2. Assessment of foods handling performed by mobile vendors in the eastern region of Belo Horizonte-MG, 2014.

Assessed items	Conformity (%)	Nonconformity (%)
Perform quality control of raw materials	68.8	31.2
Use homemade mayonnaise	43.7	56.3
Use ice produced from potable water	43.7	56.3
Use disposable receptacles for consumers	93.8	6.2
Have proper storage places for the products sold	75.0	25.0
Use clean uniform, in good condition	87.5	12.5
Have a good, clean appearance, good personal hygiene and without adornments	68.8	31.2
Handle money before handling food	68.8	31.2
Had training course	50.0	50.0

Table 3. Assessment of utensils, equipment and food transportation carts used by mobile vendors in the eastern region of Belo Horizonte-MG, 2014.

Assessed items	Conformity (%)	Nonconformity (%)
Use of suitable equipment for mobile foods trade	75.0	25.0
Use of equipment to cook foods	56.3	43.7
Use of foods refrigeration equipment	50.0	50.0
Use of cleaning materials	81.3	18.7
Proper equipment cleaning	81.3	18.7
Proper cleaning of the foods transportation carts	100.0	0.0

The inadequacies found in the street food trade may pose risks of contamination. Thus, food safety can be effectively achieved by adopting the philosophy that foodborne diseases (FBD) should be prevented by employing preventive and corrective measures in all stages of the food production process and by obtaining proper guidance on food handling.¹⁸

Among the main attractiveness for starting a business in this market are low investment costs, no prior training and no higher education required.¹⁹

Busato, Gräf & Zagonel,²⁰ when they assessed the hygienic-sanitary conditions of the food preparation sites, compliance with good practices and wastes disposal, and identified the foods traded, concluded that the problems highlighted in the study are mostly related with the workers' habits, such as poor cleaning of hands and clothing, and the need for better cleaning of the places. Omemu & Aderoju²¹ also reported similar situations regarding the poor knowledge/training on food safety by the mobile food vendors in Abeokuta, Nigeria.

Nunes et al.,²² in a study carried out to assess the hygiene conditions of vegetable foods and the trade practices of mobile street vendors in a city of the state Rio de Janeiro, Brazil, found that the main requirements for handling such foods have not been followed, such as raw material packaging and storage, handlers' hygiene and wastes management. In another study conducted by Lucca & Torres,⁹ 30% of hot-dogs trading sites in the city of São Paulo had hygienic-sanitary conditions classified as "fair" and "poor".

Fonte & Salado²³ also assessed the hygienic-sanitary conditions of the informal trade of kebabs in Maringá-PR, Brazil, using a checklist in interviews and visual analysis. They concluded that his kind of business was in poor hygiene conditions, particularly where there was no connection with commercial establishments.

Cardoso et al.¹⁵ examined the structure, regulation and hygiene in street food trade in Salvador-BA, and found many inadequacies relating to good practices in food handling. Rodrigues et al.,²⁴ in another study on the hygienic-sanitary conditions of mobile street food trade in Pelotas-RS, conducted microbiological analyses and obtained similar results.

Everyone involved in the street food business must know and adopt the best handling practices, to ensure safe food production, in conformity with the rules for hygienic-sanitary quality and product quality. Such rules cover the handlers' personal care, who are those working directly with food; the site where dishes are prepared; the equipment and utensils used; raw material; production procedures and information to consumers.^{15,16,25}

From the point of view of food and nutritional security, construed as the achievement of everyone's right to regular and permanent access to quality foods, in sufficient amount, without compromising the accomplishment of other essential needs, having health-promoting dietary practices, which respect the cultural diversity and are socially, economically and environmentally sustainable, the street foods trade has contradictory aspects. At the same time it provides work, income and better quality of life to part of the population, it can also make these people vulnerable and victim of their own lack of knowledge and training on food hygiene, which may be conducive to contamination by various pathogens.^{26,27} Thus, the increasing number of mobile street vendors provides favorable conditions for an increased risk of food poisoning, assuming that the foods hygiene and handling are deficient.²⁸

With respect to the workers, strategies point to the need for regulation of the activity, seen as an advance in the process of intervention and support to the decentralization of health actions, with norms, guidelines, standards or sanitary codes developed to guide vendors and inspectors, and training of handlers and vendors. There have been concerns regarding the possibility of overregulation, with unfavorable consequences to the business itself and the population served, on the need for guidance regarding the adoption of principles of the HACCP principle (Hazard Analysis and Critical Control Points) in the development of sanitary codes, and the importance of training, observing local characteristics, the potential use of teaching resources and discussions with associations of street vendors and non-governmental organizations.^{5,29}

Conclusion

Based on the findings of this study, one can see that older age, lack of formal education and poor family origin, added to the growing demands of the formal market, favor the entry of this kind of worker in informal activities, such as street trading.

In addition, the hygienic-sanitary characteristics reflected on nonconforming food handling and marketing actions, requiring courses or workshops for training of mobile vendors. Regarding the inspection of this kind of mobile street business, it is necessary to create and implement specific legislation aiming to Food Safety.

References

1. Okura MH, Janini AE, Oliveira GB, Pereira KS, Borges L, Ferreira MGN, et al. A contaminação em salgados (coxinhas) encontrados no centro da cidade de Uberaba, MG. *Hig. Alim.* 2005; 19(132):65-68.
2. Sa MAR, Paiva DS, Freitas EM, Caixeta HJ. Condições higiênico-sanitárias do comércio ambulante de alimentos prontos para consumo, no entorno do hospital das clínicas de Uberlândia, MG. *Hig. Alim.* 2010; 24(190/191):59-65.
3. Costarrica ML; Morón C. Estratégias para el mejoramiento de la calidad de los alimentos callejeros en América Latina Y en el Caribe. *Food Nutr. Agricult.* 1996; 17/18:47-61.
4. Kishwar M. Service, not nuisance: the economic roots and realities of vending. India Together, 2001. [acesso em: 18 ago. 2011]. Disponível em: <<http://www.indiatogether.org/manushi/vendors/vendor-facts.htm>>
5. Bryan FL. HACCP in street vending in developing countries. *Food Austr.* 1993; 45(2):80-84.
6. Bezerra ACD. Organizador. Alimentos de rua e a saúde pública. São Paulo: Annablume; 2008.
7. Franco BDGM; Landgraf M. Microbiologia dos alimentos. Rio de Janeiro: Atheneu; 1996.
8. Arruda GA. Manual de boas práticas: unidades de alimentação e nutrição. v. II. 2 ed. São Paulo: Ponto Crítico; 2002.
9. Lucca A; Torres EAFS. Condições de higiene de “cachorro-quente” comercializado em vias públicas. *Rev. Saúde Públ.* 2002; 36(3):350-352.
10. Amson GV. Comércio ambulante de alimentos em Curitiba: perfil de vendedores e propostas para programa de boas práticas higiênicas na manipulação de alimentos [Dissertação]. Curitiba: Universidade Federal do Paraná; 2005.
11. Brasil. Resolução RDC n. 275, de 21 de outubro de 2002. Dispõe sobre Regulamento Técnico de Procedimentos Operacionais Padronizados aplicados aos Estabelecimentos Produtores/industrializadores de Alimentos e a Lista de Verificação das Boas Práticas de Fabricação em Estabelecimentos Produtores/industrializadores de Alimentos. *Diário Oficial da União* 23 out. 2003.
12. Brasil. Resolução RDC no. 216, de 15 de setembro de 2004. Dispõe sobre o regulamento Técnico de Boas Práticas para Serviços de Alimentação. *Diário Oficial da União* 16 de set. 2004.
13. Mallon C; Bortolozo EAFQ. Alimentos comercializados por ambulantes: uma questão de segurança alimentar. *Publicatio UEPG – Ciênc. Biol. Saúde* 2004; 10(3/4):65-76.
14. Pamplona JB. Mercado informal, informalidade e comércio ambulante em São Paulo. *R. Bras. Est. Pop.* 2013; 30(1):225-249.

15. Cardoso RCV, Pimentel SS, Moreira LN, Santana CS, Cerqueira SC. Comida de rua: estrutura, regulação e higiene em pontos de venda da cidade de Salvador, BA. *Hig. Alim.* 2006; 20(144):37-43.
16. Bragança MGL. Boas Práticas de fabricação para o processamento artesanal de alimentos. Belo Horizonte: EMATER-MG, 2001. 20 p.
17. Germano MIS, Germano PML, Castro AP, Andrigheto C, Babadopulos P, Koshio S, et al. Comida de rua: pós e contras. *Hig. Alim.* 2000; 14(77):27-33.
18. Curi JDP; Gallo CR; Dias CTS. Condições microbiológicas de lanches (cachorro quente) adquiridos de vendedores ambulantes, localizados na parte central da cidade de Limeira - SP. *Hig. Alim.* 2008; 22(161):61-66.
19. Latham MC. Family feeding, group feeding and street foods. In: Human nutrition in the developing world. New York: FAO; 1997. Food and Nutrition Series No. 29. [acesso em 17 nov. 2013]. Disponível em: http://www.fao.org/docrep/w0073e/w0073e07.htm#P8380_1067043
20. Busato MA, Gräf FM, Zagonel LC. Condições higiênico-sanitárias do comércio ambulantes de alimentos de Chapecó, SC. *Hig. Alim.* 2014; 28(234/235):68-72.
21. Omemu AM, Aderoju ST. Food safety knowledge and practices of street food vendors in the city of Abeokuta, Nigéria. *Food Control* 2008; 19:396-402.
22. Nunes BN, Cruz AG, Faria JAF, Sant'Ana AS, Silva R, Moura MRL. A survey on the sanitary condition of commercial foods of plant origin sold in Brazil. *Food Control* 2010; 21(1):50-54.
23. Fonte BMS, Salado GA. Avaliação das condições higiênico sanitárias do comércio informal de espetinhos no município de Maringá, Paraná. *Hig. Alim.* 2009; 23(172/173):72-76.
24. Rodrigues KL, Gomes JP, Conceição RCS, Brod CS, Carvalhal JB, Aleixo JAG. Condições higiênico-sanitárias no comércio ambulante de alimentos em Pelotas-RS. *Cienc. Tecn. Alim.* 2003; 23(3):447-452.
25. Cardoso RCV, Santos SMC, Silva EO. Comida de rua e intervenção: estratégias e propostas para o mundo em desenvolvimento. *Ciênc. Saúde Colet.* 2009; 14(4):1215-1224.
26. Estrada-Garcia T, Cerna JF, Thompson MR, Lopez-Saucedo C. Contamination and enterotoxigenic *Escherichia coli* in street-vended chili sauces in Mexico and its public health relevance. *Epidemiol. Infect.* 2002; 129(1):223-226.
27. Mensah P, Yeboah-Manu D, Owusu-Darko K, Ablordey A. Street foods in Accra, Ghana: how safe are they? *Bull. World Health Organ.* 2002; 80(7):546-554.

28. Soto FRM, Risseto MR, Lúcio D, Shimosako HJ, Camargo CC, Oliveira E, et al. Metodologia de avaliação das condições sanitárias de vendedores ambulantes de alimentos no município de Ibiúna, SP. *Rev. Bras. Epidem.* 2008; 11(2):297-303.
29. Bezerra ACD; Mancuso AMC; Heitz SJJ. Alimento de rua na agenda nacional de segurança alimentar e nutricional: um ensaio para a qualificação sanitária no Brasil. *Ciê. Saúde Colet.* 2014; 19(5):1489-1494.

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