

# AVALIAÇÃO DAS BOAS PRÁTICAS EM UM SUPERMERCADO DO CARIRI CEARENSE

## EVALUATION OF GOOD PRACTICES IN A SUPERMARKET OF THE CARIRI CEARENSE

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### RESUMO

Com o crescimento do setor supermercadista e consumidores cada vez mais exigentes, que buscam qualidade e alimentos seguros, surge a necessidade de atendimento aos padrões preconizados pela legislação, as Boas Práticas de Fabricação, obrigatórias pela legislação brasileira e essenciais aos processos, a fim de garantir a qualidade higiênico-sanitária e a conformidade dos alimentos com as normas sanitárias vigentes. Trata-se de uma pesquisa de campo, do tipo descritiva observacional, realizada com o objetivo de avaliar as Boas Práticas de Fabricação nos setores de loja e cozinha de um supermercado do cariri cearense. Foi realizada uma visita técnica para avaliação dos processos internos, condições higiênico-sanitárias e estruturais, por meio de checklist, baseado na RDC 275 de 2002 para avaliação do supermercado e na RDC 216 de 2004 para avaliação da cozinha. Com os resultados obtidos, verificou-se um percentual crítico de inconformidades referentes a Edificação, instalações e equipamentos, Higienização das instalações, Abastecimento de água, Manejo de resíduos, Manipuladores, Higienização de equipamentos, maquinários e utensílios, Programa de capacitação, Produção e exposição do alimento e Documentação – MBPF e POP, resultando na classificação geral dos setores avaliados no GRUPO III (Deficiente). Diante disso, verifica-se a necessidade de adequação à legislação sanitária vigente, reduzindo riscos e garantindo a qualidade e segurança dos alimentos.

**Palavras-chave:** Supermercado, Boas Práticas de Fabricação, Controle de qualidade, Alimento seguro.

### ABSTRACT

With the growth of the supermarket sector and increasingly demanding consumers seeking quality and safe food, there is a need to comply with the standards recommended by the legislation, Good Manufacturing Practices, mandatory by Brazilian legislation and essential to the processes, in order to guarantee the hygienic-sanitary quality conformity of the food with current sanitary standards. This is a field research, of the descriptive observational type, carried out with the objective of evaluating Good Manufacturing Practices in the store and kitchen sectors of a Cariri supermarket in the State of Ceara. A technical visit was carried out to evaluate the internal processes, hygienic-sanitary and structural conditions, by means of checklist, based on RDC 275 of 2002 for evaluation of the supermarket and in RDC 216 of 2004 for evaluation of the kitchen. With the results obtained, a critical percentage of nonconformities related to Building, facilities and equipment, Sanitation of facilities, Water supply, Waste management, Manipulators, Equipment hygiene, Machinery and utensils, Training program, Production and exhibition of Food and Documentation - MBPF and POP, resulting in the general classification of the sectors evaluated in GROUP III (Deficient). In view of this, there is a need to adapt to current health legislation, reducing risks and ensuring the quality and safety of food.

**Keywords:** Supermarket, Good Manufacturing Practices, Quality control, Safe food.

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## INTRODUCTION

The supermarket sector has grown significantly, especially as the main site for the purchase of food products and assuming an important role in quality and food safety. With this, also grow the demands on the part of the bodies, agencies, with the purpose of customer service to the standards recommended by the legislation, and the consumers themselves, who are seeking much more than products displayed on shelves, seek satisfaction, efficiency and quality in services.

The competition and the concentration of business, observed in the Brazilian market, further increase the need for quest for quality and differentiation on the part of the supermarket sector, since the consumer is everyday more demanding. However, the segment remains little studied regarding the aspects related to the hygienic-sanitary conditions, food handlers and managers<sup>1</sup>.

To Moro, Bem, Weise, Reis and Schidt<sup>2</sup>, the quality of the products has ceased to be a competitive advantage and became an essential component for marketing and the companies. In the pursuit of customers satisfaction through quality products, opt to purchase processes and systems that give them this result, in a way they meet the legislation that governs the manufacturing practices, and one of the ways to achieve a high standard of quality is the deployment of Good Manufacturing Practices (GMP).

The Good Manufacturing Practices are procedures that should be adopted by food services, in order to ensure the hygienic-sanitary quality and compliance of foodstuffs with legislation<sup>3</sup>. Also, to manage the basic health requirements required by good practices, there were created in the Standard Operating Procedures (SOP), documents that describe objectively the sequential instructions for performing routine operations and specific in the production, storage and transportation of foods<sup>6</sup>. Such practices should be documented in the Manual of Good Manufacturing Practices (GMP) and their effectiveness should be monitored by means of corrective actions and changes in this document whenever necessary, through changes in processes and/or activities.

Pedroso and Bernardino<sup>4</sup> claim that the supermarkets should comply with health standards in force, in order to ensure the safety and quality of food. In this sense, the quality control is essential, since it requires the good practices in the processes of hygiene and handling of food, since the contamination can occur in the production environment itself, in the use of raw materials contaminated, in improper storage or in the process of handling. This control in addition to certify the quality of food required by the customer, also assists in reducing losses, generating higher profitability of trade.

Brazilian law requires the Good Manufacturing Practices. A tool widely used for verification of their implementation and application is a list of check or checklist. According to Silva, Silva and Silva<sup>5</sup>, allows evaluating the actions of improvements relating to a quality system, identifying conformities and taking corrective actions needed to adapt the requirements and reduce the risks that compromise the quality of food and thus the health of the consumer.

Given the above, denotes the importance of implementation and evaluation of Good Practices in the establishments of the production and marketing of foods, once,

that are essential for the processes and provide significant information for the range of quality standards and continuous search for better results. They are, therefore, important investments for companies.

However, because, many times, the lack of knowledge, GMPS are not properly implemented or enforced, and, therefore, corrections to achieve a good degree of suitability in relation to the legislation.

Whereas the quality is no longer a differential and yes a need of establishments for the production and marketing of safe food, it becomes essential to the adoption of hygiene practices and appropriate handling, applying preventive control measures at all stages of the production process and technical training of professionals. These ensure the safety and quality of food and, consequently, the consumer confidence. The health standards should be applied and enforced, regardless of the action of oversight bodies and to the supermarket under study, the implementation and effectiveness of sanitary laws is a fundamental factor in obtaining better results.

It is necessary to the implementation of and compliance with the guidelines established by Resolution RDC 275/2002 of the National Health Surveillance Agency (ANVISA)<sup>6</sup>. These features on the technical regulation of standardized operating procedures applied to industrializing establishments/producers of food and the checklist of Good Manufacturing Practices in establishments producing/industrializing of food; by Resolution RDC 216/2004, also of the National Sanitary Surveillance Agency (ANVISA)<sup>3</sup>, which features on the technical regulation of Good Practices for Food Services, necessary, in order to ensure the hygienic-sanitary conditions are appropriate and essential to food processing and consumer exposure.

This study aimed to evaluate the Good Practices in a supermarket of the Cariri in the State of Ceara; identifying the main conformities and the consequent risks that may compromise the quality of the food. Thus, characterizing the level of adequacy to good practices and establishing strategies for improvements to activities and processes, which ensure the control of quality and safety of food produced and marketed by the establishment.

## METHOD

It is a field research, descriptive and observational type, performed in a supermarket of Cariri of the State of Ceara, evaluating the industry of souvenirs and the kitchen that provides meals and snacks to customers, as well as to the aspects concerning the implementation of good practices.

The request for authorization for the study was made by means of a letter from the faculty forwarded to the manager responsible for the establishment.

For data collection, we conducted a technical visit with an accredited responsible for the establishment, for the evaluation of internal processes, hygienic-sanitary conditions and structural funds, through observations and information provided by those responsible for each sector or manager of the establishment, due for completion of the checklist.

The ratings of GMP, there were performed through a checklist suitable for each sector: for the supermarket was based in the DRC 275/2002 and for cooking, the supermarket is based in the DRC 216/2004.

There were discussed at the checklist, among others, the following items: physical-structural conditions, sanitation equipment, utensils and environment, sanitary facilities for food handlers and visitors, water supply, hygiene and health of the handlers, vector control and pest management, waste management, receipt, storage and control of freight, handling and exposure of food consumption, documentation and records, training and technical responsibility.

For evaluation, the checklist features 3 (three) options of answers identified as to the degree of compliance, such as "YES" (Y), in response to all questions of the evaluated item, "NO" (N), when does not meet one or more of the interrogatories for the item of assessment and "NOT APPLICABLE" (NA). When the item of assessment does not apply/is not present in the establishment inspected. The items, whose answer would be "not applicable", were not assessed.

The collected data were tabulated in a spreadsheet with the aid of Excel software from Microsoft Office 2016, for calculation of percentages, collection and analysis of the results, expressed in charts.

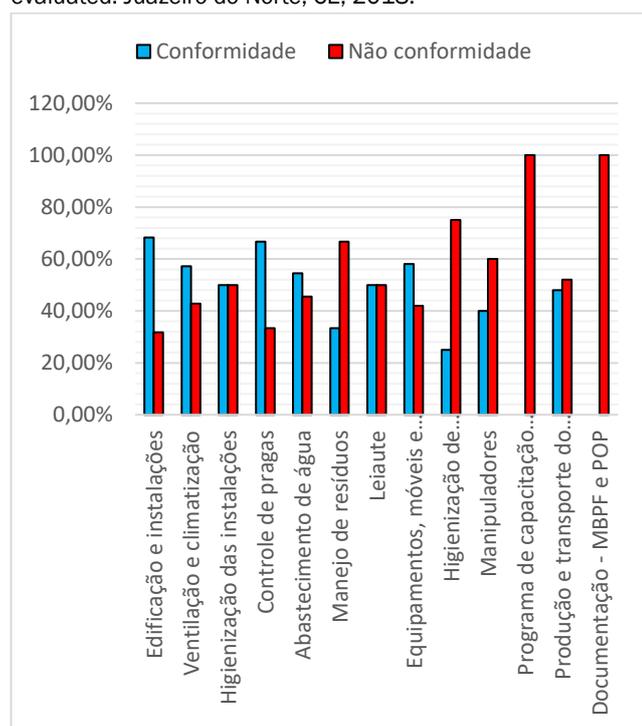
The score given by the sum of the variables analyzed in each item inspected and application of the percentage of compliance. The classification of the property was given from the results obtained, being: Group 1 (Good) - 76 to 100% of items, Group 2 (Regular) - 51 to 75% of items and Group 3 (Poor) - 0 to 50% of items on the checklist applied.

## RESULTS AND DISCUSSIONS

The results obtained in the survey are presented below, represented by graphs, identified as Figures 1 and 2.

Figure 1 presents the results referring to the checklist applied in the sector of souvenirs from the supermarket.

**Figure 1** - Percentage of conformities and non-conformities found in the supermarket store sector, according to the items evaluated. Juazeiro do Norte, CE, 2018.



The results showed the greatest inadequacies relating to Hygiene of premises (50%), Water Supply (45.46%), Management of waste (66.67%), Layout (50%), Sanitizing of equipment, machinery and utensils (75%), Handlers (60%), Training Program (100%), Production and transport of food (52%) and Documentation - MBPF AND SOP (100%).

In the sanitization of installations, the main flaws were the absence of a responsible proved to be qualified for such activity, absence of the registration of the sanitization of each sector, cleaning products without the correct dilution and stored on benches in the sectors of production and storage of food.

The water supply, despite being connected to the public network, presents conformities because there is no frequency (maximum interval of 6 months) and adequate sanitation of the reservoir, and so little, able to run this activity, registration of hygiene and control of drinkability, depending totally of control carried out by the water company of the municipality.

For waste management, the supermarkets have no suitable containers for the collection, in their majority without pedal drive and proper identification. They visibly are not sanitized with frequency, there is no proper separation of waste generated in the different sectors and the disposal is done directly on the street, without protected area, favoring outbreaks of contamination and attraction of vectors and urban pests.

The layout is disproportional to the productive process, because, currently, the flow of goods is high (receipt, storage, exposure to sales). The sector that should stay as an exclusive area for reception and conference, acts as a type of stock, because the current does not support the volume of goods received, as well as chambers of freezing and cooling, with excess products, favoring the cross contamination (yoghurt, Fruits and Vegetables and chilled meats in the same enclosure, frozen meat and ice cream stored in the same shelf).

In the sanitization of equipment, machinery and tools, the main conformities are related to lack of trained person to perform the task, technique and inadequate frequency of sanitization, absence of records, dilution and contact time of cleaning products made incorrectly and there is no suitable products for sanitizing.

In respect to the handlers, training program and supervision, there were observed inadequate aspects of presentation and personal hygiene, hygienic incorrect procedures during handling, absence of guidance for correct technique of disinfection of hands and products suitable for this procedure. It was observed the use of the same disposable sleeve to manipulate different foods, such as vegetables and meats and manipulators with adornments and enameled nails. There is no training on personal hygiene and handling of food, as well as, responsible for the supervision with knowledge about quality control and food safety.

Analyzing the production and transportation of foods, it was observed lack of control spreadsheet on receipt of products (temperature, sensory characteristics). According to the responsible for receiving, there is an assessment of the goods received and what is outside of standard and/or with a term of validity is very close to the due date shall be returned immediately to the supplier, but there is no record of such occurrences.

The storage is done without the proper spacing of the walls and between groups of foods, making it difficult to hygiene and air circulation, this problem resulting from the volume of goods received. There is no access to personnel control in the processing industries; it was observed visitors without proper standardization in the field of manipulation and custody of personal belongings (helmets, handbags, shoes) on all sides of the industry itself. Is not performed temperature control of food, equipment and environments that require thermal control, and yet, were found to foods marketed without labelling.

The supermarket presented total disability as the documentation, MBPF and SOP's. In addition to do not have such tools, responsible for the establishment showed disregard to the requirement for their elaboration and implementation in the establishment, in addition, the absence of a responsible technician and lack of regular supervision of the municipal surveillance is a fundamental factor for non-compliance with the requirement.

For the general classification of the supermarket, in completing the checklist, there were evaluated 158 (one hundred and fifty eight) items applicable to the establishment in study, of which only 67 (sixty-seven) showed compliance with the DRC 275/2002 and the remaining 91 (ninety-one) did not meet the criteria of evaluation and conformity. The supermarket has satisfied, therefore, 42.41% of the items evaluated, being classified as GROUP 3 (Poor), which meets 50% or less of the items checked.

All items with a greater degree of non-compliance, highlight the susceptibility of the supermarket for the risks of contamination of foods, which may be conveyed by several factors, among them the lack of control of the sources of contamination, with consequent risks and potential damage to the food and mainly for the consumer.

Pedroso, and Bernardino<sup>4</sup>, to assess the sanitary-hygienic aspects of 3 (three) supermarkets in Cascavel - PR, found 84.62% of conformity with the legislation for the supermarkets 1 (a) and 3 (three), and to the supermarket 2 (two) the compliance was 89.74%. Both supermarkets scored an average of non-conformity of less than 16%, having the supermarket 2 (two), 10.26% of non-compliance. The study highlighted the percentages for installations (92.31%), receipt of goods and stock (70% for the supermarkets 1 and 3, and 90% to the supermarket 2), hygiene and posture of the manipulators (93.34%), integrated pest control (100%) and documentation and registration (50%).

According to these authors, although it has been evidenced good physical structure of supermarkets and appropriate guidance to food handlers, where there is continuous training of good manufacturing practices, there were found a few items of non-compliance in some requirements, which in most of these, departed from the conduct of the handlers.

In a study, to evaluate the hygienic-sanitary conditions of sectors of refrigerator, cold meats, bakery and FLV (Fruits and vegetables), a network of supermarkets of Teresina - PI, Severo, Andrade, Lima, Cunha, Oliveira, Rego et al<sup>7</sup> identified adaptations which ranged from regular to good, showing a concern with the quality control in some supermarkets, while in others, there is a little hand this question, which is worrying, since the quality of the food is fundamental point in human

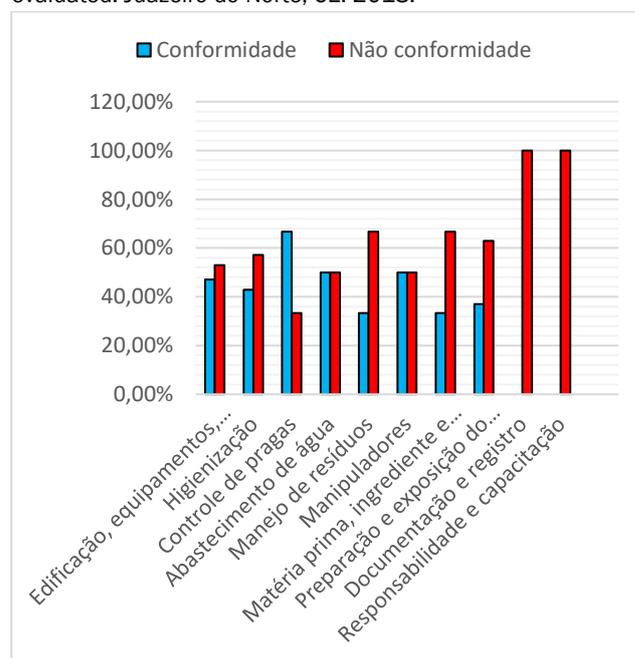
health. In research, the variations of Conformities obtained per sector were: health and hygiene of food handlers - cold (65 to 91%), FLV (52 to 87%), refrigerator (62 to 100%), bakery (62 to 82%); physical and structural conditions - cold (58 to 100%), FLV (55 to 97%), fridge (64 to 100%), bakery (44 to 97%) and sanitizing equipment, utensils and environment - cold (37 to 92%), FLV (53 to 96%), refrigerator (41 to 94%), bakery (61 to 98%).

Nuvolari<sup>8</sup> assessed the good manufacturing practices in supermarkets of Botucatu - SP, and after application of the checklist, 25% of establishments were classified as group I, 37.5% as group II and 37.5% as group III. The author emphasizes that the items analyzed in relation to the manipulation and production of food, made with that diminish the compliance percentage of establishments due to the absence of standardized operating procedures and lack of training of personnel training.

In general, as reported by the authors and the results of this research, we realize that the highest percentage of conformities occurs in cases of sanitization, manipulation and conduct of handlers, thus showing the need for actions of a healthcare professional, the importance of skills, commitment and responsibility of the handles in all processes.

Figure 2 presents the results referring to the checklist applied in the kitchen of the supermarket.

**Figure 2** - Percentage of conformities and non-conformities found in supermarket kitchen, according to the items evaluated. Juazeiro do Norte, CE. 2018.



The percentage of non-conformities obtained in the evaluation of the kitchen was quite expressive highlighting the values for edification, installations and equipment (52.94%), Hygiene of premises, equipment and utensils (57.15%), water supply (50%), management of waste (66.67%), handlers (50%), raw materials, ingredients and packaging (66.67%), Preparation and exposure of the food (63%), documentation and registration (100%) and responsibility and empowerment (100%).

For items hygiene of premises, equipment and utensils, water supply, waste management, manipulators, raw materials, ingredients and packaging, documentation and record and responsibility and empowerment, the inadequacies follow the same identified and described in the assessment of the supermarket.

The building and facilities are disproportionate to the activities carried out, the sizing hampers the operations of pre-preparation and food preparation, the flow is not linear, causing crosstalk between the different stages of food preparation. There is no separation by physical barrier or similar for the different activities (preparation of meals, salted, sweets and desserts), favoring the contamination and the exhaust system and ventilation does not provide movement and renewal of the air properly. There are no exclusive sinks for hand hygiene in the area of manipulation, nor even products for personal hygiene (antiseptic liquid soap, paper towel) which favors even more precarious hygiene practices.

In terms of preparation and exposure of the food prepared the conformities more observed were: poor hygiene of hands before handling or change of activity, lack of control of time and temperature at the different stages of production (thawing, cooking, distribution), as well as control criteria for the correct use of leftover food and reuse of frying oils. The raw materials and consumables when not used in its entirety, without identification and are stored in the refrigerator had excess storage of products opened, hindering the cooling and consequently keep temperature of conservation.

During the preparation, there was verified using the same knife and cutting board for red meat and chicken. Defrost performed under ambient temperature using water to expedite the process, fruits, vegetables and legumes not sanitized with the technique and appropriate frequency, waiting time, between the end of the production of the preparation and distribution, prolonged (up to 1 hour), in which the food is kept on benches with exposure to temperature range of risk (below 60°C).

For the general classification of the kitchen, in completing the checklist, there were evaluated 85 (eighty-five) items applicable to the sector in the present study, of which only 32 (thirty-two) showed compliance with the DRC 216/2004 and the remaining 53 (fifty and three) did not meet the criteria of evaluation and conformity. The kitchen was only 37.65% of conformity regarding the items evaluated, being classified as group 3 (poor), which meets 50% or less of the items checked.

Santini and Seixas<sup>9</sup>, to assess the hygienic-sanitary conditions of restaurants in Rolim de Moura - RO, verified that all presented below 75% compliance, classifying them as reprobates and unsatisfactory for the production of safe food. The items with the largest number of inadequacies were: Processes and production equipment for controlled temperature and environmental hygiene and in relation to the manual of Good Practices required by Resolution RDC N 216, 100% of establishments did not have this tool, in addition to the lack of a nutritionist in businesses and lack of supervision of the municipal surveillance. A percentage of 10.0% of establishments was classified as high health risk, 70.0% average health risk and 20% low risk from the point of view of sanitary-hygienic according to current legislation.

In a study on the hygienic-sanitary conditions of a unit of Food and Nutrition (UAN) discharge of Montes Claros - MG, Reis, Flávio e Guimarães<sup>10</sup>, achieved very satisfactory percentage of conformities to the items evaluated, among them: Building and facilities (57%), sanitizing of equipment (90%), pest control (100%), management of waste (100%), handlers (100%), production and transport of food (84%) and documentation and registration (89%). The UAN analyzed presented adequacy in 77% of the checklist items, being classified in Group I (good). According to the authors, there was marked the importance of the actions of the nutritionist in the wake of nutrition in study, because despite some adverse situations, it was possible to observe the existence of an effective quality control regarding the maintenance of products and services, within the acceptable tolerance levels for our customers, ensuring hygienic-sanitary measures.

It should be noted that, where there is action of suitably qualified staff for the activities of control and supervision, involvement of staff and managers, trainings, regular supervision of the bodies responsible, there are better results in the control of processes and production, providing a supply that meets the needs of consumers and the quality standards. In this study, it is necessary urgently the adequacy of these factors on the part of the establishment.

## FINAL CONSIDERATIONS

The high percentage of non-conformities to the variables evaluated and the general classification of supermarket and kitchen in Group 3 (poor), demonstrated the precariousness in terms of marketing and food preparation and the unsatisfactory sanitary legislation. The risks of contamination are present in nearly all steps of the production, once verified the absence of hygiene, handling and adequate controls.

There is still much to think, plan and, especially, to fulfill within the health requirements and applying Good Manufacturing Practices. The establishment requires a professional trained to provide improvements, with training for food handlers and management team, preparation and completion of a Manual of Good Manufacturing Practices for which the establishment can, gradually, obtain all necessary adjustments.

It is of fundamental importance in the support and investment from the owner to the necessary corrections and consequent improvements, which promote the quality and food safety and consumer health, thus ensuring greater credibility in the market.

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