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Original Article

Evaluation of the physical structure of Basic Health Units

Avaliação da estrutura física de Unidades Básicas de Saúde

Evaluación de la estructura física de Unidades Básicas de Salud

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Objective: to evaluate the infrastructure of basic health units, as the adaptation to the standards recommended by the Ministry of Health. **Methods:** descriptive study with a quantitative approach, carried in 18 basic health units. For data collection, we used a checklist built based on Ministerial Decree 2,226/09. Data analysis was performed using the Statistical Package for Social Sciences and a scoring scale (0-10) was used for the classification of health facilities. **Results:** 16.6% of the analyzed units received the average score of 3.5; 16.6% received 3.0; 5.5%, 2.5; 16.6% received grade 2.0; 11.1%, 1.5; 11.1%, 1.0; and 22.2% received 0.5 and, therefore, all units had inadequate physical structure. **Conclusion:** the city does not offer the public a service that addresses the ideals standards in its structure in most of the inspected units.
Descriptors: Health Services Evaluation; Health Infrastructure; Primary Health Care.

Objetivo: avaliar a infraestrutura de unidades básicas de saúde, quanto à adequação às normas preconizadas pelo Ministério da Saúde. **Métodos:** estudo descritivo, com abordagem quantitativa, realizado em 18 unidades básicas de saúde. Para coleta de dados, utilizou-se checklist construído com base na Portaria Ministerial 2.226/09. A análise dos dados foi realizada por meio do Statistical Package for the Social Sciences e empregou-se escala de pontuação (0-10) para classificação das unidades de saúde. **Resultados:** das unidades analisadas, 16,6% ficaram com a nota igual a 3,5; 16,6% com 3,0; 5,5% com 2,5; 16,6% com nota 2,0; 11,1% com 1,5; 11,1% com 1,0; e 22,2% ficaram com 0,5, estando, portanto, todas com estrutura física inadequada. **Conclusão:** o município não oferece ao público um serviço que contemple os padrões ideais em sua estrutura, na maioria das unidades inspecionadas.
Descritores: Avaliação de Serviços de Saúde; Infraestrutura Sanitária; Atenção Primária à Saúde.

Objetivo: evaluar la infraestructura de unidades básicas de salud, cuanto a la adaptación a las normas recomendadas por el Ministerio de la Salud. **Métodos**: estudio descriptivo, con abordaje cuantitativa, realizado en 18 unidades básicas de salud. Para recolección de datos, se utilizó lista construida con base en el Decreto Ministerial 2.226/09. Se realizó el análisis de datos utilizando el *Statistical Package for the Social Sciences* y empleó a escala de puntuación (0-10) para clasificación de los unidades de salud. **Resultados**: de las unidades analizadas, 16,6% estaban con puntuación media de 3,5; 16,6% con 3,0; 5,5% con 2,5; 16,6% con nota 2,0; 11,1% con 1,5; 11,1% con 1,0; y 22,2% alcanzaron 0,5, por lo tanto, todas con estructura física inadecuada. **Conclusión**: la ciudad no ofrece al público servicio que contemple las normas ideales en su estructura, en la mayoría de las unidades inspeccionadas.
Descriptores: Evaluación de Servicios de Salud; Infraestructura Sanitaria; Atención Primaria de Salud.

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Introduction

The Primary Health Care in Brazil has developed in two ways: in the Health Planning model in the 1970s, and the in the Family Health Program model in the 1990s. The Health Planning model originated from Public Health actions in the twentieth century, when the integration of public health services with health care services was approached. The organization of primary health care services in line with the Family Health Program is more recent, and was proposed by the Ministry of Health in 1996. This program is a strategy to universalize health care and to promote reorientation of the health system in Brazil for promotion, health prevention and health care in an integrated manner in a defined territory[1].

Health care in Brazil, arising from the National Health System, is carried out through the Health Care Networks, defined as organizational arrangements of actions and health services. Of different technological and integrated densities through technical, logistics and management support systems, they seek to ensure comprehensive care and promoting systemic integration of actions and health services with provision of continuing, comprehensive, quality, responsible and humanized care. For this purpose, the Health Care Networks have the primary health care through the Family Health Strategy, as Network communication center[2].

Twenty years after the creation of the Family Health Program, now known as the Family Health Strategy, there is concern about its structuring and strengthening, since for the proposed activities in the Family Health Strategy to be developed with quality, it is required not only the expansion in the coverage of assisted population, but also that the Basic Health Units have a minimum structure[3].

Thus, it was created Ordinance 2,226/2009 by the Ministry of Health in order to institute, under the National Policy of Primary Care, the National Implementation Plan of Basic Health Units for the Family Health Strategy. The Ordinance states that the minimum physical structure required for Basic Health Units must contain: waiting room, which can be combined with the reception; medical office; odontological office; procedures room; exclusive room for vaccines; dressing room; meeting room; kitchen/pantry; storage area for cleaning supplies; toilets for public, adapted for people with disabilities; toilets for employees; utility/sterilization support room; trash deposit; and solid waste area. They may also contain: storeroom; administration/management; and exclusive toilet for the disabled[4].

In light of the above, this study aims to evaluate the infrastructure of basic health units, as the adaptation to the standards recommended by the Ministry of Health.

Method

This is an exploratory, observational and cross-sectional research, with quantitative approach, which was carried out between May to August 2014 in the city of Caxias, in the state of Maranhão, northeastern Brazil. The city has 32 basic health units, including 11 in rural area and 21 in urban area and 50 family health teams, covering about 92.0% of the total area of the municipality. Population census conducted in 2010 by the Brazilian Institute of Geography and Statistics revealed that the city of Caxias, which is part of the eastern region of Maranhão State, had estimated 155,129 inhabitants and the Human Development Index of 0.614.

To collect data, we used a checklist built based on Ministerial Decree 2,226/09, regarding the infrastructure of Basic Health Units. This instrument had 15 items, divided into four topics, which evaluated the presence of planned environments to the necessary minimum structure of the units, such as reception, waiting room, offices, procedure room, vaccination room, dressing room, meeting room, warehouse, pantry/kitchen, storage area for cleaning supplies, toilets for public, toilets for employees, solid waste area and minimum total area of each environment.

For the study, we used non-probability sampling, of which the Basic Health Units of the countryside were excluded. Of the 21 basic units in the urban area, three did not participated in the survey because of structural reformation, leaving 18 units to study. Therefore, it was used, as criteria for recruitment of health units that would make up the sample, the distance of the basic health units from the municipal seat, since only health facilities in urban areas participated in the investigation.

The classification of the physical structure of the Basic Health Units was based on an overall assessment of the criteria set out in the evaluation form, built according to the Decree 2,226/09. This form had a score, defined as follows: 9 to 10 points, it is considered great; 7 to 8 points, good; and 0 to 6 points, bad. The overall index for each aspect was calculated as the average score of all units.

To collect the data, researchers visited each health unit and evaluated in person through direct observation and application of the checklist.

After collection, a database was built up in the Statistical Package for Social Sciences software (version 18.0 for Windows), and later the results have been consolidated by using the descriptive statistics techniques (mean and frequency).

Since it does not involve direct or indirect collection with professionals from the units, it was not necessary to subject the project to ethical consideration with humans. However, it was obtained a formal agreement with each unit for the study.

Results

Table 1 shows the results obtained in the evaluation of the physical structure of the Basic Health Units. It was noted that the vaccination room was the item that achieved the best evaluation. Waiting rooms, offices, procedure rooms and solid waste areas were the environments with the worst evaluations. As for the evaluation, the words "Yes" and "No" were used to indicate suitability and unsuitability, respectively, of the evaluated units.

Table 1 - Evaluation of the physical structure of Basic Health Units

Items	Sim	Não
	n(%)	n(%)
Reception	1(5.6)	17(94.4)
Waiting room	-	18(100.0)
Offices	-	18(100.0)
Procedures room	-	18(100.0)
Vaccination room	15(83.3)	3(16.7)
Dressing room	14(77.8)	4(22.2)
Meeting room	1(5.6)	17(94.4)
Warehouse	5(27.7)	13(72.3)
Pantry/Kitchen	8(44.4)	10(55.6)
Storage area for cleaning supplies	4(22.2)	14(77.8)
Evaluation of toilets for public	6(33.3)	12(66.7)
Toilets for employees	1(5.5)	17(94.5)
Solid waste area	-	18(100.0)
Minimum total area of each environment	-	18(100.0)

Table 2 refers to the general classification of the investigated Basic Health Units, taking into account the pre-established grade through the checklist used, in which the grades ranged from 0 to 10.

Table 2 - Individual evaluation of the Basic Health Units

Notas	n(%)
0.5	4(22.2)
1.0	2(11.1)
1.5	2(11.1)
2.0	3(16.7)
2.5	1(5.5)
3.0	3(16.7)
3.5	3(16.7)
Total	18(100.0)

Thus according to the standard grades established through the data collection instrument, it was observed that all the basic health units analyzed were classified as bad.

Discussion

The Primary Health Care is responsible for organizing the health care of individuals, their families and the population over time. Evidence has shown that this level of care is able to answer 85.0% of health needs, through the implementation of preventive, curative, rehabilitative services and health promotion, integrating care when there is more of one problem, dealing with the context of life and influencing people's responses to their health problems. One of the factors that contribute significantly to the quality of service provided to the community is the reception, since the physical and functional environment influences decisively on its effectiveness[5].

The Federal Government, through the Ministry of Health, suggests that these environments are a space for educational group activities, and that they must be accessed so that users do not need transit in other dependencies of the Basic Health Unit[6].

With regard to the normative aspect, the National Primary Care Policy called for the enhancement of structural aspects of health facilities, such as items needed to carry out primary activities, which can be highlighted: a list of environments that must be present in each health unit, equipment and materials for the set of actions proposed, the composition of the multidisciplinary team and guarantee of the reference and counter reference flow to specialized services[7].

A study conducted in two municipalities in Bahia showed similar results to this research, since the two municipalities studied (presented as "municipality A" and "municipality B", due to confidentiality criteria) had deficiencies in the physical structure of the Basic Health Units, which were more pronounced in the municipality B, where all items were observed in less than 70.0% of the Family Health Units. In the city A, 12.5% of the Family Health Units and 55.6% of Basic Health Units had the basic facilities[7-8].

Similar results were found in a study conducted in Pelotas/RS, which presented a global average of 70.0% of the Basic Health Care Network establishments as precarious. Considering only the units that performed a vital service in primary care, prenatal care, the average increased to 73.0%, also being classified as poor[8].

Structural analysis of the Basic Health Unit held in Mato Grosso showed similar results to those found in this study. In that research, 39% of the units studied were classified as "adequate" as the physical structure; 56% of health facilities were classified as "sufficient", in relation to the availability of equipment; and referring to the materials/supplies, the majority (83.0%) of the units was classified as "sufficient", for having more than 80% of items listed for each variable as fundamental to the development of nursing practice and of health teams[9].

Multicenter survey conducted in seven Brazilian states showed the architectural deficits of these health units, for 59.8% of the units were classified as inadequate, as for their infrastructure. Inappropriate steps that hindered the access of people with disabilities were found in 44.2% of the analyzed basic health units. The lack of alternative ramps to ensure access of people was observed in 63.0% of the units, and among those who had ramps, 72.8% had no handrail. Handrails were also non-existent in 95% of the corridors and 91.7% of the access steps of health facilities[10].

An assessment of the physical structures of Basic Health Units in two regions of the country (Northeast and South) also demonstrated the difficulty of access for people with disabilities in some unit environments such as bathrooms. In 77.4% of the bathrooms of the units there were no doors to guarantee access to people in wheelchairs and in 75.8% of the bathrooms it was not possible to perform approximation maneuvers with the wheelchair. The unavailability

of wheelchairs was another problem encountered, being reported in 74.7% of health facilities to attend users in case of need. The chairs of the waiting rooms were considered inadequate for users by 67.8% of the professionals of health unit teams[10-9].

As for the structure of the bathrooms, it is emphasized that the indoor bathrooms of health centers must have sink and sanitary bowl. It is advisable to also provide distinct public toilets separated by gender and at least one toilet for the disabled[11].

According to Decree 2,226/09 of the Ministry of Health, bathrooms for employees should be environments for the exchange of clothes, to keep belongings and to carry out physiological needs, and should be differentiated by gender, equipped with sink, toilet bowls and shower[9].

The existence of procedure rooms in health facilities assessed in this study is also an aspect worth mentioning. Corroborating data were highlighted in a study conducted in the capital of Mato Grosso, in which the existence of nursing procedures room was found in 16 (89.0%) of the evaluated units. Of these, 13 (72.0%) had a room or some specific area for storage of cleaning supplies, 11 (61.0%) units had space for the collection of material for clinical analysis to be sent to the laboratory and nine (50.0%) had area for solid waste[11,9].

Meanwhile, study conducted in a macro-region West of Minas Gerais, which evaluated vaccination rooms, showed that one of the determining factors for inefficiency of vaccination room is the nursing supervision, whose absence can impair the availability of immunobiologicals to the population, given that the nursing supervision is an essential tool to maintain the physical and functional structure of the vaccines rooms[11-12].

There is need, in every organization, of managers who have the role of solving problems, scaling resources, planning their application, developing strategies, making diagnoses of situations, verifying the performance of one or more people, among other activities that are essential for the performance thereof. In this context, management action in a Basic Health Unit is characterized largely by the analysis of the work process, by identifying problems and finding solutions[13]. Thus, the manager acts as an interlocutor and mediator of the work process.

Based on this, it is observed that a major problem in maintaining a good manegement in Basic Health Units is the organizational deficit of the service, which features an improvisation in the physical structure of the Basic Health Units and a complete noncompliance of the Ministerial Ordinance 2,226/2009[14].

A variety of strategies and techniques can be used to provide an adequate education in developing problem-solving skills in Primary Health Care. However, this practice is subject to a proper functioning of the Basic Health Unit, which is the main service of the primary health care[15].

Final Considerations

The Primary Health Care is the gateway to the Unified Health System, responsible for health prevention and promotion. It is important that Basic Health Units satisfy users and also comply with the standards required by the Ministry of Health in their physical and human structure. However, in this study, data show that the city does not offer to users a service that reaches the ideal standards in its structure, in most of the inspected units.

Of the items analyzed, the vaccination room was the item that received the best evaluation. Based on this, there is need for a better inspection of the health sector at the State level and by local authorities for a greater commitment to the population, as the

inadequacy of the physical structure of a Basic Health Unit influences directly the quality of service provided to the community.

The investigated theme is important for the nursing staff, since the professionals who have greater contact with the population and their actions depend directly on the unit's infrastructure for improved health care and, consequently, to obtain better health outcomes.

The research had as main limitation the fact that the instrument, although built based on the current legislation, has not undergone prior validation process. Moreover, the results are restricted to a specific location, so it is suggested that such studies be replicated in other cities.

Colaborations

Gomes RNS contributed to conception, project design, analysis and interpretation of data. Portela NLC and Cunha JDS contributed to the writing of the article and relevant critical review of the intellectual content. Pedrosa AO, Monte LRS and Soares TR contributed to the final version to be published.

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