Original article

ASSESSMENT OF INFRASTRUCTURE OF FAMILY HEALTH UNITS AND EQUIPMENT USED IN PRIMARY CARE ACTIONS

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ABSTRACT: The present study aimed to assess the quality of infrastructure in family health units and of the equipment used in primary care actions. Quantitative, cross-sectional analytical study conducted in 2014 in a large city of Minas Gerais, with assessment of the subdimension Self-assessment for Access and Quality Improvement in Primary Care of 75 teams. The subdimension was considered unsatisfactory by 48% of the units. Few units met all the requirements assessed for all health actions: (5.3%) regarding the delivery of private, personalized health care services; (9.3%) regarding availability of telephone line and internet connection; (1.3%) regarding resources needed to meet emergency care needs; (1.3%) regarding the availability of a vehicle for the transportation of the health teams in planned external activities; (4%) regarding the visual identification of the facilities and teams. The availability of a telephone line and internet connection showed the highest average in urban areas and the availability of a vehicle for transportation of the teams was higher in rural areas ($p < 0.05$). The assessment of the quality of infrastructure and equipment by the teams was predominantly negative, impacting the consolidation of Primary Care.

DESCRIPTORS: Health services; Assessment of health services; Quality of health care; Family health strategy; Primary health care.

AVALIAÇÃO DA INFRAESTRUTURA DAS UNIDADES DE SAÚDE DA FAMÍLIA E EQUIPAMENTOS PARA AÇÕES NA ATENÇÃO BÁSICA

RESUMO: Objetivou-se avaliar a infraestrutura das unidades de saúde da família e os equipamentos para ações na Atenção Básica. Pesquisa quantitativa, transversal analítica, realizada em 2014 em cidade polo de Minas Gerais, com avaliação de subdimensão da Autoavaliação para Melhoria do Acesso e da Qualidade da Atenção Básica, de 75 equipes. A classificação da subdimensão situou-se no padrão insatisfatório para 48% das unidades. São poucas as unidades com total adequação para: ações em saúde (5,3%), atendimento com privacidade (9,3%), disposição de telefone e internet (1,3%), recursos para atender urgência e emergência (1,3%), veículo oficial para ações externas (4%), identificação visual das dependências e dos profissionais (4%). A disposição de telefone e *internet* apresentou maior média para zona urbana e disposição de veículo oficial foi maior para zona rural ($p<0,05$). A qualidade da infraestrutura e dos equipamentos obteve avaliação predominantemente negativa pelas equipes, limitando a consolidação da Atenção Básica.

DESCRITORES: Serviços de saúde; Avaliação de serviços de saúde; Qualidade da assistência à saúde; Estratégia saúde da família; Atenção primária à saúde.

EVALUACIÓN DE LA INFRAESTRUCTURA DE LAS UNIDADES DE SALUD DE LA FAMILIA Y DE LOS EQUIPOS PARA ACCIONES EN LA ATENCIÓN BÁSICA

RESUMEN: Estudio cuyo objetivo fue evaluar la infraestructura de las unidades de salud de la família, así como los equipos para acciones en la Atención Básica. Investigación cuantitativa, transversal analítica, realizada en 2014 en ciudad polo de Minas Gerais, por medio de evaluación de subdimensión de la Autoevaluación para Mejorar el Acceso y la Cualidad de la Atención Básica de 75 equipos. Se evaluó la clasificación de la subdimensión como insatisfactoria para 48% de las unidades. Fueron pocas unidades con total adecuación para: acciones en salud (5,3%), atendimiento con privacidad (9,3%), disposición de teléfono e internet (1,3%), recursos para atender urgencias y emergencias (1,3%), vehículo oficial para acciones externas (4%), identificación visual de las dependencias y de los profesionales (4%). La disposición de teléfono e internet presentó media mayor para zona urbana y hubo más disposición de vehículo oficial en el ámbito rural ($p<0,05$). La evaluación de la cualidad de la infraestructura y de los equipos por los profesionales fue predominantemente negativa, limitándose la consolidación de la Atención Básica.

DESCRIPTORES: Servicios de salud; Evaluación de servicios de salud; Cualidad de la asistencia a la salud; Estrategia Salud de la familia; Atención primaria a la salud.

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INTRODUCTION

The expansion of the Family Health Strategy (FHS) involves issues related to the training of health teams, efficiency of services and the need to monitor and assess Primary Care actions (PC). For this purpose, the Brazilian Ministry of Health advocates the continuous improvement of the assessment processes in the routine of public health management and services. The Policy on the Monitoring and Assessment of Primary Care established the Self-assessment for Access and Quality Improvement in Primary Care (AMAQ), together with the Brazilian states and municipalities, establishing the assessment as a permanent instrument for decision-making, and quality as a major goal to be achieved by the National Health System (NHS) [1-4].

Therefore, the AMAQ is used to assess, among other dimensions, the infrastructure and equipment essential for the development of primary care actions. It should be emphasized that adequate physical structure and availability of equipment and supplies for the execution of health actions in sufficient quantities to meet the specific needs of the population covered is essential for the organization of the work processes and actions targeted to health users, in order to provide higher quality care [1].

However, it is necessary to improve the physical and structural difficulties associated with the acquisition of equipment and materials required to conduct health care actions. The structural deficiencies of the units generate dissatisfaction among the family health teams because the model of care proposed by the FHS favors the delivery of holistic care to the individual, the family and the community, which requires some level of infrastructure for the satisfactory execution of primary care actions involved in the delivery of a more humanized care that goes beyond the traditional biomedical approach [5-6].

Thus, infrastructure should be valued in the assessment of Primary Health Care services. Assessment of infrastructure and equipment is an important management tool [7]. Its use should be encouraged, and the knowledge obtained should be put into practice to improve the performance and impact of primary care actions targeted to the population [4,8-9]. New studies on the issue may shed light on the status of health facilities, assisting in the planning of interventions aimed to improve the conditions of care delivery in the referred units [5,10]. The AMAQ tool is valuable to evaluate the self-assessment of the units made by the health teams. It allows identifying the subdimensions that require greater attention and management intervention [2-4].

This study aimed to assess infrastructure aspects of family health units and the equipment used in Primary Care actions.

METHOD

This is a quantitative, cross-sectional analytical study conducted in a city in the northern state of Minas Gerais, Montes Claros. According to the census of the Brazilian Institute of Geography and Statistics (IBGE), the population of the city was estimated at 394,350 inhabitants [11].

Seventy-five (75) family health teams, from the urban and rural zones registered in the municipality, participated in the study. Data was collected in 2014, through the AMAQ instrument available on the website of the Ministry of Health. The files of the instrument were printed and made available by technicians of the municipal health department.

AMAQ is a tool for use in the second phase of the development of the Program for Quality Monitoring and Assessment (PMAQ). The program is a tool for the assessment of health services based on nationally and internationally validated instruments and was used by the Brazilian Ministry of Health. The instrument is composed of two dimensions and subdimensions related to the primary care team, with independent analysis. In the present study, we analyzed the subdimension Infrastructure and Equipment, an integral dimension of the Basic Health Unit (UBS) [1].

The subdimension assessed considered eight quality standards of the UBS:

- Regarding its physical infrastructure and equipment, the UBS meets the requirements needed for

the development of primary care actions;

- The UBS offices count on infrastructure and basic equipment that allow the delivery of individual care to the users, ensuring visual and auditory privacy;

- The UBS perform a regular and systematic maintenance of physical facilities, equipment and instruments, according to a schedule;

- A telephone line and a computer with internet connection are available for the health professionals during their activities at the UBS;

- Availability of equipment and supplies required for first aid in emergency cases in the UBS;

- A vehicle is available for the transportation of the teams in planned external activities, when necessary;

- The UBS can provide adequate care to people with disabilities and/or with reduced mobility, illiterate and elderly;

- There is visual identification in all the facilities and health care professionals use ID badges [1].

The degree of compliance of the infrastructure of basic health units and of essential equipment for use in primary care actions with a quality standard is assessed by the items of the tool, according to a scale ranging from zero to 10 points, where zero is assigned to non-compliance with the standard and 10 is assigned to total compliance with the standard. The points are summed to classify the results of the team as very unsatisfactory, unsatisfactory, regular, satisfactory and very satisfactory, according to zero-15 points, 16-31, 32-47, 48-63 and 64-80 respectively. UBS with higher scores were considered more adequate by the staff [1]. In addition to the eight AMAQ questions, information on family health teams regarding their location (urban or rural) was also collected.

Statistical analysis was performed using IBM Statistical Package for Social Sciences (SPSS) Statistics, version 22.0. Descriptive statistics was used to transform the data in percentages, mean, standard deviation, mode and percentiles. Bivariate analyzes were performed to compare the percentages obtained by the teams in each standard quality (very unsatisfactory to very satisfactory) according to the location (urban, rural) using the Likelihood ratio test. Kolmogorov - Smirnov test on normal distribution was conducted All the eight questions on quality assessment obtained $p < 0.05$, or else, non-parametric data. And, in the sum of points of the subdimension, p value = 0.464 was obtained. Thus, Mann Whitney test was used to compare the means for the questions, and Student t test was used to compare the means of the sum of points according to the location (rural or urban). A level of significance of $p < 0.05$ was considered in all tests.

The study was conducted according to the regulations that govern research involving human subjects. The research project was approved by the Research Ethics Committee of the State University of Montes Claros, under statement no. 704.718 / 2014. The project was also approved by the Municipal Health Department.

RESULTS

Regarding the eight questions included in the subdimension assessed by the teams, only four (5.3%) teams found that the UBS was totally adequate for providing care to disabled persons, illiterate and elderly, by rating the unit with the maximum score (10); lack of regular and systematic maintenance was stressed by 22 (29.3%); as well as unavailability of telephone line and internet connection, 14 (18.7%); and 15 (20%) teams found that the UBS was totally unfit to provide care to disabled persons, illiterate and elderly (Table 1).

Table 1 - Description of the scores assigned to the eight quality standards of the subdimension Infrastructure and Equipment of the Basic Health Unit. Family health teams. Montes Claros, MG, Brazil, 2014

Points	The UBS can adequately perform the health actions n (%)	The UBS allows personalized health care n(%)	UBS performs regular and systematic maintenance of physical facilities, equipment and supplies (%)	UBS with a telephone line and computer with internet connection for its actions n(%)
0	0(0)	1(1.3)	22(29.3)	14(18.7)
1	3(4)	1(1.3)	9(12)	1(1.3)
2	12(16)	12(16)	10(13.3)	8(10,7)
3	6(8)	2(2.7)	9(12)	9(12)
4	14(18.7)	4(5.3)	4(5.3)	9(12)
5	10(13.3)	9(12)	8(10.7)	10(13.3)
6	14(18.7)	5(6.7)	1(1.3)	2(2.7)
7	4(5.3)	10(13.3)	6(8)	10(13.3)
8	7(9.3)	12(16)	6(8)	7(9.3)
9	1(1.3)	12(16)	0(0)	4(5.3)
10	4(5.3)	7(9.3)	0(0)	1(1.3)
Points	**UBS has resources to meet emergency care needs n(%)**	**UBS provides a vehicle for the transportation of health professionals in planned external actions n (%)**	**UBS can provide care to disabled persons, illiterate and elderly n (%)**	**Visual identification in internal and external areas of the UBS and healthcare professionals use ID badges n (%)**
0	29(38.7)	59(78.7)	15(20)	3(4)
1	6(8)	2(2.7)	11(14.7)	3(4)
2	9(12)	1(1.3)	10(13.3)	4(5,3)
3	10(13.3)	1(1,3)	11(14.7)	3(4)
4	6(8)	0(0)	8(10.7)	3(4)
5	7(9.3)	2(2.7)	9(12)	8(10.7)
6	3(4)	2(2.7)	2(2.7)	8(10.7)
7	1(1.3)	1(1.3)	7(9.3)	8(10.7)
8	3(4)	2(2.7)	2(2.7)	24(32)
9	0(0)	2(2.7)	0(0)	8(10.7)
10	1(1.3)	3(4)	0(0)	3(4)

Source: Data from self-assessment for access and quality improvement in primary care, 2014.

In the sum of the points of the subdimension per team, these ranged from four to 55 points in this study, with a mean of 30.84 (± 11.784) points per team. Among the eight questions, the lowest mean between the teams concerned the transportation of the professionals in a vehicle in planned external activities, 1.33 (± 2.974), while the highest mean was observed in the unit that had identification in its internal and external areas, 6.27 (± 2.632) (Table 2).

Table 2 - Mean values and separators of the points obtained in the eight questions of the assessment of Infrastructure and Equipment in the Basic Health Unit. Family health teams. Montes Claros, MG, Brazil, 2014

Question	Mean	Standard deviation	Minimum	Maximum	25	50th Percentile median
UBS provides adequate conditions for health care actions	4.91	2.332	1	10	3	5
UBS allows personalized care with privacy	6.21	2.777	0	10	4	7
UBS provides regular and systematic maintenance of physical facilities, equipment, etc.	2.77	2.679	0	8	0	2
UBS has a telephone line and computer with internet connection for the staff	4.19	2.912	0	10	2	4
UBS has resources for emergency care needs	2.29	2.487	0	10	0	2
UBS provides a vehicle for the transportation of the teams in planned external actions	1.33	2.947	0	10	0	0
UBS can meet the care needs of disabled persons, illiterate and elderly	2.91	2.361	0	8	1	3
UBS with visual identification in its external and internal areas and professionals use ID badges	6.27	2.632	0	10	5	7
Total sum Infrastructure and equipment	**30.84**	**11.784**	**4**	**55**	**23**	**30**

Source: Data from the self-assessment of access and quality improvement in primary care, 2014.

For the respondents, the quality standards were unsatisfactory in 36 (48%) UBS (Table 3).

Table 3 – Classification of subdimension Infrastructure and Equipment of the Basic Health Unit. Family health teams. Montes Claros, MG, Brazil, 2014

Infrastructure and Equipment		
Classification	**n**	**%**
Very unsatisfactory	5	6.7
Unsatisfactory	36	48
Regular	27	36
Satisfactory	7	9.3
Total	**75**	**100**

Source: Data from the self-assessment of access and quality improvement in primary care, 2014.

There was no significant difference between the means of the scores obtained in the subdimension assessed according to the location of the teams. In the rural area, the mean was 31.09 (± 10.949) points, and in the urban area, 30.80 (± 12.003) points, p = 0.940. Regarding the different questions of the subdimension, considering the location of the UBS, the highest mean for availability of telephone line and internet was obtained in the urban area, while the availability of a vehicle for the transportation of the teams was higher in the rural zone (P <0.05), as described in Table 4.

Table 4 - Comparison of the means of the scores for the questions of the assessment of Infrastructure and Equipment in Basic Health Units, according to urban or rural location. Family health teams. Montes Claros, MG, Brazil, 2014

Question	Urban	Rural	p
UBS provides adequate conditions for health care actions	39.27	30.64	0.220
UBS allows personalized care, with privacy	38.69	34	0.506
UBS provides regular and systematic maintenance of physical facilities, equipment, etc.	37.98	38.09	0.988
UBS has a telephone line and computer with internet connection for the staff	40.63	22.73	0.011
UBS has resources for emergency care needs	37.43	41.32	0.572
UBS provides a vehicle for the transportation of the teams in external actions	33.16	66.18	<0.001
UBS can meet the care needs of disabled persons, illiterate and elderly	39.88	27.05	0.068
UBS with visual identification in its external and internal areas and professionals use ID badges	39.98	26.50	0.053

Source: Data from the self-assessment of access and quality improvement in primary care, 2014.

There was no association between the scores assigned in the classification of subdimension Infrastructure and Equipment of Basic Health Units and urban or rural location (p = 0.478). The quality standard "unsatisfactory" obtained the highest percentage, as follows: 29 (45.3%) units in the urban area and seven (63.6%) units, in the rural area, respectively (Table 5).

Table 5 - Classification of the subdimension Infrastructure and Equipment of the Basic Health Unit, according to urban or rural location. Family health teams. Montes Claros, MG, Brazil, 2014

Infrastructure and Equipment in the Basic Health Unit				
Classification	**Urban zone n (%)**	**Rural zone n (%)**	**Total n (%)**	**Likelihood Ratio p**
Very unsatisfactory	5(7.8)	0(0)	5(6,7)	
Unsatisfactory	29(45.3)	7(63.3)	36(48)	
Regular	24(37.5)	3(27.3)	27(36)	0,478
Satisfactory	6(9.4)	1(9.1)	7(9.3)	
Total	**64(100)**	**11(100)**	**75(100)**	

Source: Data from the self-assessment of access and quality improvement in primary care, 2014.

DISCUSSION

The present study identified a predominantly negative assessment of the equipment and infrastructure of family health units by the family health teams. Recent studies on the subject had similar results [2-6,8,10,12-14].

In addition to jeopardizing the development and the quality of primary care actions, poor infrastructure and lack of material resources generate dissatisfaction among the professional teams and reduce the potential for expanding and restructuring the practices and the health care model[10]. The study showed that only 9.3% of the teams found that the UBS were totally fit to provide individual care with privacy. A systematic review identified that lack of adequate physical space in the units resulted in unavailability of personalized care to the users. Moreover, the lack of equipment and material resources interfere with the delivery of continuous care and leads to unfavorable working conditions [15].

In a nationwide study conducted in 38,812 basic health units and with 17,202 health teams participating in the PMAQ, focused on the adequacy of infrastructure in the prevention of cervical cancer, the prevalence of adequacy of infrastructure was 49%. This prevalence was higher in units that used the FHS model and joined the PMAQ (61%) (16). Another survey, conducted in 55 FHS units of Cuiaba-MT showed that most units met the standards of physical infrastructure and provided postpartum care[17].

The problems related to infrastructure and availability of inputs show the need to invest in the improvement of the organizational structure and hence the quality of health care. Another study demonstrated that the availability of supplies and equipment in the healthcare unit was the factor most strongly associated with better performance in primary care, in Belo Horizonte, Minas Gerais [18].

Many health services are provided in makeshift buildings available to users in the communities because of the unavailability of a building that meets the requirements of the pertinent legislation[14]. Most basic health units operate in rented buildings, and only the landlords can do major repairs or renovations [12,17].

In their assessment of the availability of telephone lines and computer equipment with access to the internet the respondents revealed that these were not available, which is worrying. An even more alarming finding concerned the availability of a vehicle for the transportation of the teams in planned external actions, with 78.7% of the professionals assigning a zero score to this item. Similarly, assessment of the FHS unit in Campina Grande-PB revealed that no computerized systems were used in bureaucratic activities in any of the health units [8]. This deficiency indicates that the UBS do not take advantage of the various electronic tools destined to the storage, organization, access and availability of information, and a considerable time that could be allocated to other activities is involved in this process, with a negative impact on the quality of care [8].

The current study found a higher average score for telephone and internet line layout in the urban area, and a higher average number of points for official vehicle deployment for the displacement of professionals to external actions programmed in the rural area. These results can be clearly elucidated by the fact that in urban areas there is greater availability and access to communication and internet connection. On the other hand, in the rural area, the use of a vehicle to transport the teams is a basic need because of the greater distances between the health units and the residences.

Another important item assessed in the infrastructure and equipment subdimension is the availability of equipment and supplies required for first aid in emergency cases at the UBS. Again, most assessments were negative for this item. The hypotheses to explain this finding are the scarce resources available for the purchase of equipment for primary care, as well as the fact that emergency and emergency care has been historically provided only by hospitals and specialized outpatient clinics. Another study conducted at the Northeeastern macro-region of the state of Minas Gerais [4] found these structural deficiencies in basic health units.

Therefore, an intervention is needed to ensure the teams have the appropriate conditions to provide high quality care, which will increase the efficiency of the FHS [4]. It is worth mentioning that since the FHS is the gateway to the health system, its units should be equipped to provide first aid in emergency cases. This is particularly important given the considerable increase in the number of users with chronic noncommunicable diseases, who may have complications that will require interventions and actions in primary care.

In this study, according to 20% of the teams, the units were totally unfit to provide care to disabled persons, illiterate and elderly. This finding deserves consiideration, family health services must be accessible to all users in the community, including accessibility to disabled persons. This weakness was also identified in Campina Grande [8] and João Pessoa [14]. Like any other population group, disabled persons need access to health. According to the National Health Policy on Disabled Persons, both primary care and medium and high complexity services should be widely accessible to the population[14].

International studies also emphasize the need for improvements in accessibility, because disabled individuals may refuse to seek health services if access to health facilities is difficult or impossible[19-21]. A study carried out in India with 839 disabled persons and 1,153 non-disabled persons found that disabled persons were more likely to seek health services than the others [20].

Users who cannot access health services may be more susceptible to diseases, and are more likely to delay the beginning of treatment, which can be harmful. In order to promote universal access to care, it is critical that health facilities provide adequate environmental adaptations [14]. They should also count on adequate supplies and equipment to deliver humanized and holistic care for persons with disabilities and/or reduced mobility, illiterate and elderly, thus ensuring wide access, fairness and high-quality care [1].

The results of the assessment made by the family health units presented in this study showed that the professionals look for an ideal health system, but this involves interventions in their daily operations [3]. This situation raises concerns about the benefits of the nationwide expansion of the FHS. One possible explanation is that small and medium-sized municipalities face difficulties related to the funding and management of their health systems, which demand a closer look into the specific contexts in which the policies were implemented [6].

However, although infrastructure, equipment and supplies of FHS units have been the recent focus of some leaders and managers, the deficiencies found must be effectively managed by them [12,22].

In this regard, it is expected that the present study will assist managers in the planning of actions that correct the inadequacies found in the health units and allow a clear view of the operational capabilities of primary care facilities and the critical issues that impact the quality of care. However, this study has some limitations. It is a study with a cross-sectional design limited to the scenario of FHS units of one particular city. No direct observation techniques were used. Instead, data obtained from the self-assessment of family health teams was analyzed.

CONCLUSION

The assessment of the quality of infrastructure in the UBS and of the equipment for use in in primary care actions was predominantly negative. The identified weaknesses deserve greater attention, particularly the unavailability of telephone lines and computer with internet connection, a vehicle for the transportation of the teams, and equipment and supplies for first aid in emergency cases, as well as the fact that the units are unfit to provide care to disabled persons, illiterate and elderly users.

Poor infrastructure and insufficient material resources were identified in the location where this study was conducted, as well as in primary health care in Brazil. These deficiencies impact the development of primary care actions, the quality of care and generate dissatisfaction among professionals and users. They also reduce the potential for expanding the FHS, regarding the restructuring of practices centered on the individual-family-community triad and on the quality of healthcare.

REFERENCES

1. Ministério da Saúde (BR). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. AMAQ: autoavaliação para melhoria do acesso e da qualidade. Brasília: Ministério da Saúde; 2013.

2. Felisberto DF, Silva GS, Beirão ROS, Falcão MLP, Felisberto E, de Albuquerque AC. Qualidade dos serviços oferecidos em uma unidade de saúde da família: avaliando a conformidade com os padrões do Programa Avaliação para Melhoria da Qualidade. Rev Baiana Saúde Pública. [Internet] 2013;37(2) [acesso em 12 fev 2016]. Disponível: http://inseer.ibict.br/rbsp/index.php/rbsp/article/viewFile/384/pdf_420.

3. Lins CFM, Alchieri JC, de Araújo Neto JL, Melo FAF. Avaliação da Estratégia Saúde da Família em Natal a partir das crenças dos seus colaboradores. Psico. [Internet] 2013;44(4) [acesso em 10 fev 2016]. Disponível: http://revistaseletronicas.pucrs.br/ojs/index.php/revistapsico/article/view/12193/10846.

4. Cardoso AVL, Chain APN, Mendes RIP, Ferreira e Ferreira E, Vargas AMD, Martins AMEBL, et al. Assessment of the management of the Family Health Strategy via the tool Assessment for Quality Improvement in municipalities of Minas Gerais, Brazil. Ciênc. saúde coletiva. [Internet] 2015;20(4) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1590/1413-81232015204.01832014.

5. de Oliveira Junior RG, Santos EO, Ferraz CAA, de Lavor EM, Nunes LMN. Condições de trabalho das Equipes de

Saúde da Família do município de Petrolina-PE: percepção dos profissionais de saúde. Mundo Saúde. [Internet] 2013;37(4) [acesso em 10 fev 2016]. Disponível: http://www.saocamilo-sp.br/pdf/mundo_saude/155558/A08.pdf.

6. Souza ROA, Machado CV, Noronha MF. Desafios da gestão municipal da atenção básica em saúde no brasil: um estudo de caso. Rev APS. [Internet] 2015;18(2) [acesso em 11 fev 2016]. Disponível: https://aps.ufjf.emnuvens.com.br/aps/article/view/2476/875.

7. Starfield B. Atenção Primária: equilíbrio entre necessidades de saúde, serviços e tecnologia. Brasília: Unesco/ Ministério da Saúde; 2002.

8. Rocha ACD, Sousa CPC, Queiroz D, Pedraza DF. Atenção básica à saúde: avaliação de estrutura e processo. RAS. 2012;14(54):71-9.

9. Kringos DS, Boerma W, van der Zee J, Groenewegen P. Europe's strong primary care systems are linked to better population health but also to higher health spending. Health Aff. [Internet] 2013;32(4) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1377/hlthaff.2012.1242.

10. Soares Neto JJ, Machado MH, Alves CB. The Mais Médicos (More Doctors) Program, the infrastructure of primary health units and the municipal human development index. Ciênc. saúde coletiva. [Internet] 2016;21(9) [acesso em 22 nov 2016]. Disponível: http://dx.doi.org/10.1590/1413-81232015219.16432016.

11. Instituto Brasileiro de Geografia e Estatística (IBGE) Cidades@ Minas Gerais Montes Claros. [Internet] Rio de Janeiro: IBGE; 2010 [acesso em 22 fev 2016]. Disponível: http://cidades.ibge.gov.br/xtras/perfil.php?codmun=314330.

12. Magnago C, Pierantoni CR. Dificuldades e estratégias de enfrentamento referentes à gestão do trabalho na Estratégia Saúde da Família, na perspectiva dos gestores locais: a experiência dos municípios do Rio de Janeiro (RJ) e Duque de Caxias (RJ). Saúde debate. [Internet] 2015;39(104) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1590/0103-110420151040194.

13. Pimentel FC, de Albuquerque PC, de Souza WV. A Estratégia Saúde da Família no estado de Pernambuco: avaliação da estrutura das equipes por porte populacional. Saúde debate. [Internet] 2015;39(104) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1590/0103-110420151040138.

14. Martins KP, da Costa TF, de Medeiros TM, Fernandes MGM, de França ISX, Costa KNFM. Internal structure of Family Health Units: access for people with disabilities. Ciênc. saúde coletiva. [Internet] 2016;21(10) [acesso em 22 nov 2016]. Disponível: http://dx.doi.org/10.1590/1413-812320152110.20052016.

15. Nora CRD, Junges JR. Humanization policy in primary health care: a systematic review. Rev. Saúde Pública. [Internet] 2013;47(6) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1590/S0034-8910.2013047004581.

16. Tomasi E, Oliveira TF, Fernandes PAA, Thumé E, da Silveira DS, Siqueira FV, et al. Estrutura e processo de trabalho na prevenção do câncer de colo de útero na Atenção Básica à Saúde no Brasil: Programa de Melhoria do Acesso e da Qualidade - PMAQ. Rev. Bras. Saude Mater. Infant. [Internet] 2015;15(2) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1590/S1519-38292015000200003.

17. Oliveira DC, Mandú ENT, Corrêa ACP, Tomiyoshi JT, Teixeira RC. Estrutura organizacional da atenção pós-parto na Estratégia Saúde da Família. Esc. Anna Nery. [Internet] 2013;17(3) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1590/S1414-81452013000300007.

18. Turci MA, Lima-Costa MF, Macinko J. Influência de fatores estruturais e organizacionais no desempenho da atenção primária à saúde em Belo Horizonte, Minas Gerais, Brasil, na avaliação de gestores e enfermeiros. Cad. Saúde Pública. [Internet] 2015;31(9) [acesso em 12 fev 2016]. Disponível: http://dx.doi.org/10.1590/0102-311X00132114.

19. Mudrick NR, Breslin ML, Liang M, Yee S. Physical accessibility in primary health care settings: results from California on-site reviews. Disabil Health J. [Internet] 2012;5(3) [acesso em 10 fev 2016]. Disponível: http://dx.doi.org/10.1016/j.dhjo.2012.02.002.

20. Gudlavalleti MVS, John N, Allagh K, Sagar J, Kamal¬akannan S, Ramachandra SS. Access to health care and employment status of people with disabilities in South India, the SIDE (South India Disability Evidence) study. BMC Public Health. [Internet] 2014;(14) [acesso em 10 fev 2016]. Disponível: http://dx.doi.org/10.1186/1471-2458-14-1125.

21. Lagu T, Iezzoni LI, Lindenauer PK. The axes of access - improving care for patients with disabilities. N Engl J Med. [Internet] 2014;370(19) [acesso em 10 fev 2016]. Disponível: http://dx.doi.org/10.1056/NEJMsb1315940.

22. de Mesquita KO, da Silva LCC, Lira RCM, Freitas CASL, Lira GV. Patient safety in primary health care: an integrative review. Cogitare Enferm. [Internet] 2016;21(2) [acesso em 22 nov 2016]. Disponível: http://dx.doi.org/10.5380/ce.v21i2.45665.