Self-care comparison of hypertensive patients in primary and secondary health care services

Comparação do autocuidado entre usuários com hipertensão de serviços da atenção à saúde primária e secundária

Cláudia Rayanna Silva Mendes[1]
Thais Lima Vieira de Souza[1]
Gilvan Ferreira Felipe[1]
Francisca Elisângela Teixeira Lima[1]
Maira Di Ciero Miranda[1]

Keywords
Health services evaluation; Public health nursing; Nursing; Hypertension; Self care

Descritores
Avaliação de serviços de saúde; Enfermagem em saúde pública; Enfermagem; Hipertensão; Autocuidado

Submitted
July 20, 2015

Accepted
November 29, 2015

Corresponding author
Cláudia Rayanna Silva Mendes
Alexandre Baraúna street, 1115,
Fortaleza, CE, Brazil.
Zip Code: 60430-160
rayanna_sm@hotmail.com

DOI
http://dx.doi.org/10.1590/1982-0194201500095

Abstract

Objective: To compare the self-care performed by hypertensive patients monitored in primary and secondary health care.

Methods: Cross-sectional study with 189 patients with arterial hypertension in a Basic Health Unit and in an integrated center for diabetes and hypertension in Fortaleza, from March to June, and from September to November of 2013. An interview with a guide based on Orem's self care theory was conducted. For statistical analysis, percentage and chi square test distributions were used.

Results: Adequate fluid intake (77.6%), attending nurse consultation (88.0%), and changes in lifestyle (54.3%) had better results with patients monitored in primary care. Appropriate salt consumption (100.0%) and abstinence from alcoholic beverages (88.7%) were more common in patients monitored in secondary care.

Conclusion: Hypertensive patients from both primary and secondary care showed a self-care demand, without significant differences.

Resumo

Objetivo: Comparar o autocuidado realizado pelos usuários com hipertensão acompanhados na Atenção Primária e Secundária de saúde.

Métodos: Estudo transversal com 189 usuários com hipertensão arterial, em uma Unidade Básica de Saúde e em um centro integrado de diabetes e hipertensão de Fortaleza-CE, de março a junho e setembro a novembro de 2013. Realizou-se entrevista com roteiro fundamentado na Teoria do Autocuidado de Orem. Para análise estatística, utilizou-se distribuição porcentual e teste qui quadrado.

Resultados: Ingesta hídrica adequada (77,6%), comparecimento às consultas de enfermagem (88,0%) e modificações no estilo de vida (54,3%) apresentaram melhores resultados nos usuários acompanhados na Atenção Primária. Consumo adequado de sal (100,0%) e abstinência de bebidas alcoólicas (88,7%) mostraram-se mais presentes nos usuários acompanhados na Atenção Secundária.

Conclusão: Tanto os usuários com hipertensão da Atenção Primária como da secundária apresentaram demanda de autocuidado, sem diferença significativa.

[1]Universaidade Federal do Ceará, Fortaleza, CE, Brazil.

Conflicts of interest: there are no conflicts of interest to declare.

Introduction

The World Health Organization defines hypertension as the chronic elevation of systolic and/or diastolic blood pressure to levels ≥140mmHg and 90 mmHg, respectively. During the patient's assessment, the presence of risk factors, comorbidities and damage to target organs must be considered in addition to the pressure levels.[1]

In Brazil, it is estimated that 30% of the population older than 40 years of age has high blood pressure, which is becoming one of the most serious public health problems, especially because of the complex resources needed for its control and the impact on population health.[1] Moreover, it is considered one of the biggest risk factors for developing cardiovascular and cerebrovascular diseases, or diseases that are major causes of morbidity and mortality, in addition to its high social cost.[2] Despite the risks that hypertension presents, adherence to antihypertensive therapy is still inefficient; it is seen as a challenge for health services and public policies; most affected individuals do not have their blood pressure properly controlled, as a result of poor adherence to treatment.[3]

The control of the disease is closely related to lifestyle changes, such as proper nutrition, regular physical exercise and smoking cessation, practices that are related to self-care activities. People with hypertension should be guided by health professionals about such practices in order to control blood pressure and prevent diseases.[4] Thus, to successfully control hypertension, self-care practices by the patient are needed, which are defined as the performance of activities by individuals for their own benefit, to maintain life, health and well-being.[5] When effectively performed, self-care helps to maintain structural and functional integrity, contributing to human development.[6] However, when self-care is not performed, self-care deficits arise, making the integration of the healthcare professional essential to make the patients aware of the need to adopt self-care practices, aiming to prevent complications and promote health.[7]

Studies examining predictive factors for the control of hypertension have less frequently addressed self-care practices, indicating the challenge of developing new research on the subject, considering that poor adherence to self-care may be related to poor rates of controlling blood pressure levels.[6]

So, the question is: is there a difference between the self-care demand of patients monitored in primary and secondary health care?

The study is justified by the need to evaluate self-care practices in hypertensive patients, comparing the performance levels of primary and secondary care in encouraging self-care, considering that personal care is essential for improving quality of life and reducing complications.

The objective was to compare the self-care practices performed by hypertensive patients monitored in primary and secondary health care.

Methods

This was an analytical study with a quantitative, cross-sectional design, performed in Fortaleza (CE), Brazil, in a Basic Health Unit within the Family Health Strategy, from March to June of 2013, and in an integrated center for diabetes and hypertension from September to November of 2013.

The Basic Health Unit researched offered physician and nurse consultations, immunizations, dental care, pharmacy, among other services. The multidisciplinary team consisted of nurses, nurse technicians, physicians, dentists, community health workers and administrative personnel, in addition to receiving professional aid from the Support Center for Family Health.

In the secondary care unit, the multidisciplinary team is composed of nurses, a psychologist, pharmacist, dentist, social worker, nutritionist, physical therapist, occupational therapist, ophthalmologist, nephrologist, neurologist, endocrinologist and general practitioner. The main objective of this unit is to educate and help the hypertensive and/or diabetic patient to con-

trol his clinical condition and prevent complications.

The study population consisted of patients who were waiting for the nurse and/or physician consultation, or had just had their consultation, in the units studied. The sample included 92 primary care and 97 secondary care patients, totaling 189 diagnosed hypertensive patients. The inclusion criteria were: a medical diagnosis of arterial hypertension, age ≥18 years, and attending the nurse and/or physician consultations at these units during the data collection period. The exclusion criteria were: absence of physical, psychological or cognitive ability to answer the squestions.

Data collection was performed by means of individual interview, using a guide based on Orem's self care theory[8] that was divided into two parts. The first addressed conditioning factors for the practice of self-care, considering the sociodemographic and clinical characteristics of the patients; the second included data related to self-care performed by the patient. Each interview had an average duration of 20 minutes; patients were invited to a waiting area in the designated space reserved for physician or nurse consultation and/or nursing care.

Regarding the data on patient self-care, the following issues were discussed: (1) universal self care requisites: fluid intake, diet, salt and coffee intake, consumption of artificial seasonings, physical activity, leisure activity, stress, hours of nighttime sleep per day, and type of sleep; (2) developmental self-care requisites: tobacco and alcohol; (3) health deviation self-care requisites: knowledge about the disease and treatment, in which the users were asked about the definition, the factors that cause hypertension, and the care needed to control it, use of hypertensive drugs, abandonment or discontinuation of hypertensive treatment, attending nursing and/or medical consultations, participation in educational activities, and modifications after the diagnosis.

With regard to fluid intake and eating habits, including appropriate salt and coffee intake, the Food Guide for the Brazilian population was used, which considers healthy eating, Dietary Approaches to Stop Hypertension (DASH), as the dietary pattern, which is rich in fruits, vegetables, fiber, minerals and low-fat dairy products. Fluid intake is adequate when the individual ingests at least 2L of water, coffee consumption is no more than three cups, and salt consumption remains below 2g of sodium per day.[9,10]

The data were displayed in tables. Percentage distribution was used for statistical analysis, and the chi square test was performed, adopting $p<0.05$ for statistical significance. The data tabulation, calculations and statistical analyses were performed using Microsoft Office Excel Starter 2010 and the Statistical Package for the Social Sciences (SPSS), version 20.

The development of the study complied with national and international regulations of ethics in research on human beings, considering the principle of respect for human dignity. Participants were informed about the purposes of the research and could freely decide whether they wanted to participate; those who agreed signed the Terms of Free and Informed Consent form.

Results

The predominant sociodemographic characteristics of hypertensive patients monitored by primary and secondary care were: female (68.3%), age ≥60 years (69.7%), married or in a consensual union (58.2 %), non-white (72.5%), primary school education (57.1%), retirees or pensioners (63%), and family income below or equal to the minimum wage (57.5%). Despite the high frequency of retirees or pensioners, 31.5% and 24.7% of the sample surveyed in primary and secondary care, respectively, had some sort of work activity.

The comparison of self-care practices among patients in primary and secondary care is enabled by the Universal Self-care Requirements, Developmental and Health Deviations, as shown in tables 1, 2 and 3.

Table 1 shows a statistical association between adequate fluid intake and follow-up in primary care (77.6; p = 0.012), which leads to the belief that this level of care achieved better results with hypertensive clients, regarding the achievement of the daily recommended water intake.

Regarding salt consumption, individuals monitored in both primary and secondary care showed high compliance related to a low sodium diet or food totally without salt added. All users monitored in secondary care said that they had a salt restricted diet, demonstrating a better result in relation to this aspect, with statistical significance (p = 0.016). On the other hand, only 47.6% of respondents avoided thes regular consumption of artificial seasonings.

The variables related to coffee consumption (93.5%), physical activity (32.6%), participation in leisure activities (42.4%) and uninterrupted sleep (38.0%) obtained better rates among patients monitored in primary care. However, this was without statistical significance, showing homogeneity among patients followed in both levels of health care.

Table 2 showed that all variables in relation to developmental self-care received higher rates among patients monitored in secondary care.

Abstinence from alcohol (88.7%) was the only issue with statistical significance (p = 0.000), demonstrating that patients monitored in secondary care abstained more from the use of alcohol as compared to those monitored in primary care.

Abstinence from smoking was not statistically significant, showing that the level of care in which patients were being followed did not influence this factor.

Table 1. Distribution of hypertensive patients, according to the Universal Self Care Requisites

Universal Self-care Requisites	Primary care n=92 n(%)	Secondary care n=97 n(%)	Total n=189 n(%)	p-value
Adequate fluid intake	52(77.6)	57(58.8)	109(66.5)	0.012
Healthy eating	41(45.6)	46(47.4)	87(46.5)	0.798
Appropriate salt consumption	88(95.7)	97(100)	185(97.9)	0.016*
Appropriate coffee consumption	86(93.5)	87(89.7)	173(91.5)	0.350
Avoid consumption of artificial seasonings	46(50.0)	44(45.4)	90(47.6)	0.523
Physical activity practice	30(32.6)	30(30.9)	60(31.7)	0.804
Leisure activity practice	39(42.4)	37(38.1)	76(40.2)	0.552
Lower stress	36(39.1)	45(46.4)	81(42.9)	0.313
Hours of satisfactory nighttime sleep	44(47.8)	56(57.7)	100(52.9)	0.173
Uninterrupted nighttime sleep	35(38.0)	35(36.1)	70(37.0)	0.780

*Related to Likelihood Ratio

Table 2. Distribution of hypertensive patients according to the Developmental Self-care Requisites for abstinence from smoking and alcohol

Developmental Self-care Requisites	Primary care n=92 n(%)	Secondary care n=97 n(%)	Total n=189 n(%)	p-value
Smoking abstinence	86(93.5)	95(97.9)	181(95.7)	0.076
Alcohol abstinence	74(80.4)	86(88.7)	160(84.7)	0.000

Regarding the Health Deviation Self Care practices, presented in table 3, a higher number of patients followed in primary care reported making lifestyle changes (54.3%; p = 0.037) in order to contribute to the normalization of blood pressure, demonstrating that the care level achieved better results in relation to the engagement of hypertensive patients in non-pharmacological treatment.

Another factor emphasized in the primary care sample was attending nurse consultations (88.0%; p = 0.000), revealing closer monitoring performed by the nurse with patients receiving services in this level of care.

The patients monitored in secondary care had higher rates in relation to knowledge about hypertension (40.2%), participation in educational activities at the health service (37.1%), and adherence to drug treatment (77.1%). Although higher, these results were not very different from those achieved by those in primary care, which may be related to certain equivalence in the effectiveness of care in both health care levels.

The low rate of knowledge can be related to lack of participation in educational activities, as only 25 primary care and 37.1% of secondary care respondents, respectively, affirmed participating in educational activities.

Despite their relatively limited knowledge about the disease, the majority (72.9%) denied discontinuing the use of medications, and in

those cases where it did occur, the main reason was the lack of medicines available at the health services, considering that almost all reported that they always attended their regular consultations.

Table 3. Distribution of hypertensive patients according to the Health Deviation Self Care Requisites

Health Deviation Self Care Requisites	Primary care n=92 n (%)	Sencodary care n=97 n (%)	Total n=189 n (%)	p-value
Knowledge about the disease	25(27.2)	39(40.2)	64(33.9)	0.058
Participates in educational activities	23(25.0)	36(37.1)	59(31.2)	0.072
Adherence to medical treatment	63(68.5)	74(77.1)	137(72.9)	0.185
Attendance to medical consultations	90(97.8)	92(94.8)	182(96.3)	0.278
Attendance to nurse consultations	81(88.0)	52(53.6)	133(70.4)	0.000
Modifications after the diagnosis	50(54.3)	38(39.2)	88(46.6)	0.037

Discussion

Results of this study were limited by its cross-sectional design, since the data collection with the patients occurred in a single moment, rather than over time, to allow larger inferences. However, relevant information was identified in regard to factors related to the self-care practices and demands of hypertensive patients, as well as the comparison between primary and secondary health care. , It was found that, regardless of the level of care in which they are monitored, these individuals present demands and, because nurses work systematically in the primary care unit and/or outpatient care center, this information provides a foundation for planning and developing interventions with these patients to stimulate self-care practice.

A greater demand by women was found in health care, already evidenced by the literature, especially with regard to preventive practices due to structural and/or cultural reasons and, furthermore, because the man are nhe focus of the healthcare service, which makes them almost invisible for professionals, especially in primary care.[11] Elderly women have a higher prevalence in relation to systemic arterial hypertension, whereas the overall prevalence between men and women is similar, although it is higher in men up to 50 years, reversing with the beginning of the fifth decade.[10] Study with individuals of Asian origin found that female consumers are more likely to perform self-care practices.[12]

The adoption of a healthy diet is among the self-care practices. The guidelines of the Brazilian Society of Hypertension result in a recommendation for the adoption of the DASH diet, as part of hypertensive treatment, which emphasizes the increased consumption of fruits, vegetables and low-fat dairy products; includes whole grains, poultry, fish and nuts; and reduces consumption of fats, red meat, sweets and soft drinks. In addition, a low sodium diet favors the reduction of blood pressure.[9]

However it was found that most of the participants used artificial seasonings, which generally included sodium in their ingredients, which contributes to elevated blood pressure. A study involving individuals of Hispanic/Latin American origin identified the characteristic dietary patterns of this group as a possible barrier to self-care, and identified some difficulties in following a healthy diet. According to the author, preparing different meals for different family members to have an appropriate diet can expensive which segregate the family.[13]

This study identified that most primary and secondary care patients consumed coffee. However, they consumed doses that did not present risks for blood pressure level elevation, as they drank three cups or less of coffee per day. The polyphenols contained in coffee, and in some types of teas, have vasoprotective properties, thereby making the risk of high blood pressure due to caffeine use irrelevant in usual doses.[9]

It was shown that less than half of the sample surveyed denied being able to avoid stress, all the time, which can have as an aggravating factor for the poor quality of sleep found, which can also contribute to increased stress and, consequently, elevated blood pressure.[14] The low practice of leisure activities can also be an interfering factor in the emotional state of those clients, leading to increased blood pressure and complications.

Leisure can be identified as a form of coping with loneliness, increasing the process of socialization and interfering positively on the mental health

of people who practice activities focused on this purpose, helping in the treatment of hypertension.[15] Considering regular physical activity, it was noted that only a small portion of the sample, both in primary and secondary care, was adept in this practice, despite its importance, both in hypertensive individuals as well as in prevention of mortality and risk of cardiovascular disease in those who already have a diagnosis of arterial hypertension. The regular practice of physical exercise has been recognized in the literature as an important strategy to be implemented for prevention and control of hypertension, for its effect in reducing blood pressure levels.[14] However, it is acknowledged the difficulty of implementation of physical activity as self-care practice.[16]

Regarding smoking, most patients moitored in primary and secondary care did not have this habit or had quit, corroborating what highlighted studies show that, in general, the prevalence of smoking among the elderly is lower, resulting from the cessation of this habit with aging.[17] A study conducted in the urban area of a city in Florianópolis showed that the majority (61%) of the elderly never smoked, and 30.7% had stopped, corroborating what was evidenced in this study and confirming the importance of this self-care practice.[18]

Alcohol use for long periods may increase blood pressure and mortality rates from cardiovascular diseases in general. In the Brazilian population, excessive consumption of alcohol is associated with the occurrence of hypertension, independently of demographic characteristics.[9] However, in the present study, most clients, especially those monitored in secondary care, had no habit of consuming alcoholic drinks.

Another factor that can influence the control of hypertension is knowledge of the disease and its treatment, as it is closely related to treatment adherence. The largest number of individuals with knowledge about the disease, identified among those followed in secondary care, may be related to the fact that they participate more often in activities focused on health education and are monitored by professionals involved almost exclusively with the theme of hypertension in their daily lives. In general, hypertensive patients have information about their health problem, but if the blood pressure levels are not properly controlled, the difference between knowledge and adherence is evident.[19]

Due to the treatment of hypertension being chronic, and influenced by financial and social conditions, lifestyle changes becomes one of the barriers to be faced by hypertensive patients, since these changes require persistence and determination, constituting one of the greatest difficulties for adherence to non-pharmacological treatment, making pharmacotherapy more "practical" to be performed.[20] It was found that primary care achieved better results related to this aspect, possibly because it offers a broader vision that is closer to the reality of the individual that provides the care.

Conclusion

A statistically significant association was found between fluid intake, lifestyle modification, attending nurse consultations and primary care monitoring. The adequate intake of salt and abstinence from alcohol were associated with monitoring in secondary care.

Acknowledgements

To the Cearense Foundation for the Support of Scientific and Technological Development (Fundação Cearense de Apoio ao Desenvolvimento Científico e Tecnológico - FUNCAP; Scientific Initiation Scholarship for Mendes CRS).

Collaborations

Mendes CRS contributed to the project design, execution of the research and writing of the article. Souza TLV and Felipe GFF collaborated with analysis and data interpretation, article writing and critical review of the intellectual content. Lima FET and Miranda MDC contributed to the project design, relevant critical review of the intellectual content and final approval of the version to be published.

References

1. Borim FS, Guariento ME, Almeida EA. [Profile of hypertensive patients assisted in a public health center]. Rev Bras Clin Med. 2011; 9(2):107-11. Portuguese.
2. Ulbrich AZ, Bertin RL, Bozza R, Stabelini NA, Lima GZ, Carvalho TC, et al. [Probability of arterial hypertension from anthropometric measures in adults]. Arq Bras Endocrinol Metab. 2012; 56(6):351-7. Portuguese.
3. Cavalari E, Nogueira MS, Fava SM, Cesarino CB, Martin JF. [Adherence to treatment: a study with hypertensive outpatients]. Rev Enferm UERJ. 2012; 20(1):67-72. Portuguese.
4. Oliveira GR, Ramos LC, Melo MS. [Health education and quality of life for the battle of systemic hypertension in a business unit of Salvador, BA]. Em Extensão. 2013; 12(1):113-20. Portuguese.
5. Balduíno AF, Mantovani MF, Lacerda MR, Meier MJ. [Conceptual self-management analysis of hypertensive individuals]. Rev Gaúcha Enferm. 2013; 34(4):37-44. Portuguese.
6. Warren-Findlow J, Seymour RB, Huber LRB. [The association between self-efficacy and hypertension self-care activities among African American adults]. J Community Health. 2012; 37(1):12-24.
7. Dickson VV, Nocella J, Yoon HW, Hammer M, Melkus GDE, Chyun D. cardiovascular disease self-care interventions. nursing research and practice [Internet]. 2013[cited 2015 Jul 15]. Article ID 407608: 16. Available from: http:// http://www.hindawi.com/journals/nrp/2013/407608.
8. Orem DE. Nursing concepts of practice. 5th ed. St. Louis: Mosby; 1995.
9. Brasil. Ministério da Saúde. Secretaria de Atenção à Saúde. Coordenação-Geral da Política de Alimentação e Nutrição. Guia alimentar para a população brasileira. Brasília, DF: Ministério da Saúde. 2010.
10. Sociedade Brasileira de Hipertensão. VI Diretrizes brasileiras de hipertensão. Arq Bras Cardiol. 2010; 95(1 Supl.1): 1-51.
11. Alves RF, Silva RP, Ernesto MV, Lima AG, Souza FM. Gênero e saúde: o cuidar do homem em debate. Psicol Teor Prat. 2011; 13(3):152-66.
12. Hu H, Li G, Arao T. [Prevalence rates of self-care behaviors and related factors in a rural hypertension population: a questionnaire survey]. Int J Hypertension. 2013 [cited 2015 Oct 2]. Available from: http://www.hindawi.com/journals/ijhy/2013/526949.
13. Perez A. [Self-management of hypertension in hispanic adults]. Clin Nurs Res. 2011; 20(4): 347-65.
14. Cardoso Junior CG, Gomides RS, Queiroz AC, Pinto LG, Lobo FS, Tinucci T, et al. [Acute and chronic effects of aerobic and resistance exercise on ambulatory blood pressure]. Clinics. 2010; 65(3):317-25. Portuguese.
15. Baldissera VD, Bueno SM. [Leisure and mental health in people with hypertension: convergence in health education]. Rev Esc Enferm USP. 2012;46(2):380-7. Portuguese.
16. Crowley MJ, Grubber JM, Olsen MK, Bosworth HB. [Factors associated with non-adherence to three hypertension self-management behaviors: preliminary data for a new instrument]. J Gen Intern Med. 2013 Jan;28(1):99-106.
17. Conceição Ferreira CC, Peixoto MR, Barbosa MA, Silveira EA. Prevalence of cardiovascular risk factors in elderly individuals treated in the brazilian public health system in Goiânia. Arq Bras Cardiol. 2010; 95(5):621-8.
18. Zattar LC, Boing AF, Giehl MW, d'Orsi E. [Prevalence and factors associated with high blood pressure, awareness, and treatment among elderly in Southern Brazil]. Cad. Saúde Pública. 2013; 29(3):507-21. Portuguese.
19. Pierin AM, Marroni SN, Taveira LA, Benseñor IJ. [Hypertension control and related factors at primary care located in the west side of the city of São Paulo, Brazil]. Ciênc Saúde Coletiva. 2011; 16 Suppl 1:1389-400. Portuguese.
20. Guedes MV, Araujo TL, Lopes MV, Freitas MC, Alemida PC. [Barriers to hypertension treatment]. Rev Bras Enferm. 2011; 64(6):1038-42. Portuguese.