The influence of self-measured pressure...



### MEASURED DESSURE ON THE ADI

# THE INFLUENCE OF SELF-MEASURED PRESSURE ON THE ADHRENCE TO SYSTEMIC BLOOD HYPERTENSION TREATMENT

A INFLUÊNCIA DA AUTOMEDIDA DA PRESSÃO ARTERIAL NA ADESÃO AO TRATAMENTO DA HIPERTENSÃO ARTERIAL SISTÊMICA

LA INFLUENCIA DE LA AUTOMEDIDA DE PRESIÓN ARTERIAL EN LA ADHERENCIA AL TRATAMEINTO DE LA HIPERTENSIÓN ARTERIAL SISTÉMICA

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#### **ABSTRACT**

**Objective**: to investigate the influence of self-measured blood pressure on the adherence to treatment. **Method**: it is an observational, descriptive study with a qualitative approach, performed in a Family Health Strategy of the municipality of Minas Gerais, with 11 adults. The production data was performed with interviews, transcribed, preserving the spelling and performed the reading by all authors to the reliability of data. The analysis proceeded concurrently with collecting testimonials and was based on the principles of inductive thematic analysis. **Results**: themes emerged << The relationship of the disease and their meanings >>, << The distant world view of familiarity with technology >>, << Living with pressure device: the proximity to the biomedical >> < <Li>Living with the disease: the step to the resignation >>. **Conclusion**: the self-measured blood pressure influences the adjustment to pharmacological and popular treatment. **Descriptors**: Hypertension; Patient Cooperation; Nursing care.

#### RESUMO

Objetivo: investigar a influência da automedida da pressão arterial na adesão ao tratamento. Método: estudo observacional, descritivo, com abordagem qualitativa, realizado em uma Estratégia de Saúde da Família de um município de Minas Gerais, com 11 pessoas adultas. A produção de dados foi realizada com entrevistas, transcritas na íntegra, preservando a grafia e realizada a releitura por todos os autores para a fidedignidade dos dados. A análise transcorreu concomitante à coleta de depoimentos e foi fundamentada nos princípios da análise indutiva temática. Resultados: emergiram os temas << A relação da doença e seus significados >>, << A visão de mundo distante da familiaridade com a tecnologia >>, << Convivendo com o aparelho de pressão: a proximidade com a biomedicina >>, << Convivendo com a doença: o passo para a resignação >>. Conclusão: a automedida da pressão arterial influencia o ajuste ao tratamento farmacológico e popular. Descritores: Hipertensão; Cooperação do Paciente; Cuidados de Enfermagem.

#### RESUMEN

**Objetivo:** investigar la influencia de la auto-medida de la presión arterial en la adhesión al tratamiento. **Método:** estudio observacional, descriptivo con enfoque cualitativo, realizado en una Estrategia de Salud de la Familia de un municipio de Minas Gerais, con 11 personas adultas. La producción de datos fue realizada con entrevistas, transcriptas en su íntegra, preservando la grafía y realizada la relectura por todos los autores para la fidedignita de los datos. El análisis fue concomitante a la recolección de declaraciones y se fundamentó en los principios del análisis inductivo temática. **Resultados:** emergieron los temas << La relación de la enfermedad y sus significados >>, << La visión del mundo distante de la familiaridad con la tecnología >>, << Conviviendo con el aparato de presión: la proximidad con la biomedicina >>, << Conviviendo con la enfermedad: el paso para la resignación >>. **Conclusión:** la auto-medida de la presión arterial influye el ajuste al tratamiento farmacológico y popular. **Descriptores:** Hipertensión; Cooperación del Paciente; Cuidados de Enfermería.

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**INTRODUCTION** 

Systemic hypertension is a serious public health problem multifactorial. The magnitude of this problem is justified by its high prevalence, constituting the main risk factor for cardiovascular disease<sup>2-3</sup> and it has serious complications that determine permanent disability that compromise the quality of life. HAS is considered a multifactorial clinical condition characterized by high and sustained levels of blood pressure (BP). It is associated

often with functional and/or structural

changes in target organs such as heart, brain,

kidneys and blood vessels and metabolic

disorders, with consequent increased risk of

fatal and non-fatal cardiovascular events.<sup>5</sup>

To reduce the high rates of complications morbidity related to this chronic and condition, it is essential the implementation of non-pharmacological treatment combined, when necessary, to pharmacological therapy.<sup>5</sup> Early diagnosis with effective treatment is relevant for preserving the quality of life of hypertension. 6-7 with However, effective treatment is one of the biggest challenges for health professionals and the person with hypertension since adherence to treatment, which involves lifestyle changes and medication use continuously, are difficult to be incorporated into the process of living of people with hypertension.8

Factors such as poor access to health services, the fragile bond with the public health system, the notion of the disease, the high number of prescription drugs and their adverse financial effects, conditions, difficulties to overcome the barriers due to age limitations, geographical accessibility, chronicity, instability of blood pressure levels and the medicalization of life are highlighted as factors for non-adherence to treatment. These conditions, related to the commitment of different dimensions, such as biological, psychological, sociological, anthropological, influence the wav the person with hypertension deal with the illness and their paths in search of treatment and healing.

Faced with these difficulties, many people make the treatment even by their way, considering what they can do, what they do or how they want to do because they act as their experience with the illness.<sup>9</sup>

The effective monitoring of people with hypertension for empowerment and selfmanagement of the disease process is critical because control of blood pressure (BP) reduces cardiovascular complications and critical outcomes such as acute myocardial The influence of self-measured pressure...

infarction (MI), stroke, kidney problems, among others.<sup>3</sup>

The use of self-measured blood pressure (AMPA) has been a widespread and growing practice in society and a topic of great scientific debate, not only because of its relevance but above all due to the great future that afforded it to self-management and control of blood pressure.

The AMPA was defined by the World Hypertension League (1988) as the measure of blood pressure performed by patients or family members, non-health professionals, outside the office, usually at home, representing an important source of additional information. Together with this definition, it has been advocated as the BP measurement of the patient at home with validated devices and after proper training. 11

The main advantage of the AMPA is the possibility of obtaining a more accurate estimate of BP, given that the values are obtained in the environment in which people spend most of the day, it has less interference commonly observed in measurements performed by health professionals in clinical scenarios and it has values closer to the reality of everyday life. 12

Although the blood pressure measurement with digital devices eliminates some biases of traditional measure, it does not dispense the use of proper technique recommended in the guidelines, so training is fundamental for people to perform AMPA.<sup>13</sup>

It appears that the few studies on this subject point to the advantages of AMPA, demonstrating greater adherence to drug and lesser consumption treatment antihypertensive drugs; it indicates the possibility of using AMPA as an alternative method of monitoring pressure in hypertensive population and evaluates the response to antihypertensive treatment. Incorrect blood pressure measurements can have serious consequences because falsely low readings deprive the client of the treatment of hypertension, as well as a falsely high reading may result in unnecessary treatment.14

incorrect measurements together Also, with the lack of guidance can contribute to non-adherence to treatment. Therefore, the role of health professionals, particularly nursing, it is essential for the development of health education actions in order encourage people to self-management of the disease process, for advice on the BP devices the procedures for the correct and measurement of BP.

Before our experiences that have been built in the course of vocational training and the conviviality with of people with hypertension, as members of DIPER Extension Project: searching for a better quality of life, which is engaged in the health education of people with hypertension, we realized the difficulty of individuals to cope with chronic illness and adhere to treatment. Thus, the increasing use of AMPA in society and the behavior compared to the results obtained have caused concerns, which are reflected by the following questions:

What is for you to have high blood pressure? Who advised you to carry out the AMPA? Which is your behavior by the values found by AMPA? Did you receive guidance for the measurement of blood pressure? What were those guidelines?

We believe that the approach of knowing and doing of people with hypertension can provide us with better understanding to provide more appropriate care to their singularities. To provide answers to our concerns, we propose the objective of this study to investigate the influence of AMPA adherence to treatment of systemic hypertension.

#### **METHOD**

This is an observational, descriptive study with a qualitative approach, in that the reasoning is based mainly on the perception and understanding of the human being.<sup>15</sup>

The study was conducted participants with one man and ten women with a diagnosis of hypertension, aged 18 years old and above, who performed the AMPA, able to answer the questionnaires, registered in Family Health Strategy Units of a of Minas Gerais. We used understanding of the saturation of data, where knowledge formed by the researcher in the field, corresponds to the internal logic of the study group, which allowed us to achieve the goal of the study. 16

The research with the participants of the study was conducted by the leader author, through recorded interviews to gather testimony in pre-scheduled home visits in September 2013 to January 2014. The variable presentation in blocks was adopted as a technique for choosing the participants. This is a sociological variable, where through an initial participant other participants with the same characteristics are located.<sup>17</sup>

The research was conducted by an instrument consisting of two parts. The first part refers to the sociodemographic and clinical questionnaire consisting of questions

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that address the age, gender, education, religious belief, people living in the same household, main occupation, family income and associated comorbidities. The second part refers to a roadmap for the collection of statements, comprising the guiding questions. What is for you to have high blood pressure? What is your behavior after the completion of AMPA? Did you receive guidance about the disease, about the treatment and the AMPA? From who? What were the guidelines received?

The interviews were transcribed in full, preserving the spelling and performing the reading by all authors to the reliability of data. The analysis proceeded concurrently with collecting testimonials and were based on the principles of inductive thematic analysis. <sup>16</sup> From the initial reading, coding and categorization of data were performed from their similarity, which allowed us to identify the issues and analyze the influence the AMPA adherence to treatment of hypertension. The data were presented descriptively and analyzed based on the following membership definition treatment

[...] One closely process associated with the life, which depends on a number of intermediations involving the everyday person, the organization of work processes in health and accessibility in a broad sense [which includes the processes that lead - or not - the development of life with dignity] 18 p.1329

This study is part of the research project "Chronic conditions: nursing as a link" and was approved by the Research Ethics Committee in Human Beings of UNIFAL-MG (CAAE: 06655512.0.0000.5142). To participate in the study voluntarily, participants signed the Informed Consent Form (TCLE), they were informed about the objectives of the study and had assured their anonymity, using a fictitious name at the option of the researchers.

### **RESULTS AND DISCUSSION**

The results and discussion presented here prioritized cultures, beliefs, and values that the participants attributed to their chronic condition with hypertension and how the blood pressure devices are understood, how social and cultural conceptions support the logic of their uses and how they participate in these people's lives. In some cases, even this technology can be reviewed, but always with a potential ambiguity, and even negativity. So that the findings bring us closer to the reality of the participants, we elucidate the sociodemographic and clinical characteristics of these people. The sample consisted of 11 members, a man and ten women with a

diagnosis of hypertension registered in UESF and who performed the AMPA. The age range was between 20 and 86 years old, with a predominance of married people complete primary education, followed by incomplete, with Catholic religious belief, followed by evangelicals. The monthly income was between one and three minimum wages, considering the current minimum wage of R\$ 724.00 reais. All participants lived with at least two people and, at most, five people. We found that the associated comorbidities were common among participants, such as Heart Diabetes Mellitus, Failure, rheumatoid arthritis being the most selfreferred, followed by hypothyroidism, psoriasis, depression and anxiety. Considering the chronicity of hypertension and associated comorbidities, it is understandable that the world view in some cases is permeated by the medicalization of life.<sup>19</sup> The imposed by the biomedical model for the treatment of chronic condition imprisons people to pathology and limits the choice of freedom of living in their way.<sup>20</sup>

### ♦ The relationship between the disease and their meanings

Cultural issues are generating meanings and bring with them important contributions to the interpretations of the disease. We realize that each one understands and means their experience with the disease differently.

We note that the causation of hypertension is attributed to age, as they refer to high pressure is an elderly disease.

[...] For me high blood pressure is an aging thing, that the more time passes the more pressure is high and bad. I had high pressure and then it was getting worse I was getting an old lady (laughs) and certainly with this, the pressure became more uncontrolled [...]. (Olga, 42)

On the other hand, we find those who attribute the disease to the nervous and family conflicts, representing an indictment from the group culture. These external conditions compromise the control of blood pressure, thus losing the normal range.

[...] For me the pressure is a body dissatisfaction for some wrong things we did [...]. (Rosario, 85)

The "nerve" is one of the most common popular images of suffering. The meanings attributed to this condition are due more to internal reasons, for their own emotional distress or disease and their vulnerability to everyday stress.<sup>21</sup>

The understanding that one has from the relationship with the disease experience brings a series meant for the very condition of being sick. Each one passes to bring new

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meanings of the disease and the body to express these meanings. This is where the sensations of high pressure and low pressure in different signs and symptoms are perceived. Thus, the experience can be interpreted as a way by which the disease is a new meaning within the social context, away from the biomedical world, since for biomedicine, hypertension is an asymptomatic disease.<sup>22</sup>

We noted that the manifestation of the disease through Corporeity was predominant among participants as expressed in the statement.

[...] I just know that the pressure is good when I have my body good (runs his hand on the neck) when I do not feel pain in the neck and head (passes his hand on the forehead). For me the pressure is bad when my knee is aching all over (passes his hand on the right knee) my life all gets angry, I get sad afraid to die [...]. (Luzia, 82)

We found that the body's expression is the most important measure for blood pressure parameters. We found bases for explanation, since the body representation of culture, it expresses specific elements of the society the man emerges. the body, it assimilates and appropriating the values, norms and social customs in a merger process. Thus, the corporeality is the representation of the history of life and the body lived experience.<sup>23</sup> Based on these assumptions we realized that body carries with different representations of the illness because of man constitutes a single being.

Most of the time, they are unaware of the values espoused by biomedicine to assess blood pressure, as evidenced by the testimony of the fragment below.

[...] The pressure is high when I lose the joy of living I feel bad about the foreign body. (Luzia, 82).

While some of them attribute the numerical value of blood pressure, body expression accompanies this data, as we can identify the testimony of the fragment as follows:

[...] For me, normal is 130x90 mmHg because my body is like that ... I like being with the pressure that way. (Zuleica, 38)

Considering that the body is a legitimized expression for the evaluation of BP, we found ambiguity and even negativity on blood pressure devices.

# ♦ The distant worldview of familiarity with technology

We noticed a distance of the world view of the participants with the principles of

biomedicine, although the acquisition of pressure devices has become popular. It is evident that among some participants, the equipment, numbers, and reading the result do not make any sense. We realized that the results obtained by measuring the BP are seen mostly with suspicion and even denial, since there is no correspondence between the values obtained and the manifestation of the body; there are those who obtained only the device, either as a gift or by purchase on their own. However, they have not been presented with information on the procedures for the correct measure and references of the recommended blood pressure to AMPA.

We noted that for these participants, AMPA does not influence on adherence to treatment of hypertension, as the fragments of the following statements:

[...] Even with these modernities of young people who have everything in control, it is hard to understand this, because the people who are older does not easily adapt these new people's things, then this is a strange computer [...]. (Rosario, 85)

[...] When she (caregiver) tells me that I do not need the medicine and I'm not feeling well, I take it hidden and everything is right [...]. (Joseph, 78)

We realized the ambiguity to the pressure device since the presence or absence of the manifestation of corporeality is not approved by the pressure device.

[...] This strange computer (silence) I do not know if this really works, there are days when I think it's all wrong. Because I am feeling well and that says that my blood pressure is high. I know that not all modern people can find it works well and that's right. The life of people is much more than just a number [...]. (Rosario, 85)

It is highlighted the fact that not only the figures of blood pressure or target organs that are committed but hypertension also adds suffering of different nature, being important to look at the person with the disease and not just see him and recognize his identity from the pathology.

### ♦ Living with the pressure device: the proximity to biomedicine

On the other hand, those who have value in the technology and find in the pressure device the sense for its use. They believe in numbers and their correspondence as a proximity to the biomedical world.

[...] This present was so helpful because I always know if I can eat more salt beef (looking for his daughter's approval) even if she (the daughter) does not like much. When I see that is low, like 100x60 mmHg, I go hidden in the kitchen and put a tiny

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bit of salt under the tongue, but it has to be hidden because she (daughter) she watches a lot (lower voice). We are older and can do some things sometimes (expression of happiness). And when I see it is very high I call her (daughter) for her to give me the medicine, I do not like it larger than 160x120 mmHg (worried expression) [...]. (Aparecida, 78)

[...] After measuring the pressure (look up thoughtfully) I usually take the medication if it is decompensated or I lie to see if it lowers. Except that there are days when I see that is very, very high even more so ... kind 170x120 mmHg, then I go to the hospital because I take a lot of medicine and stay mixing too much medication is bad, hurting the body [...]. (Zuleica, 38)

Among those participants, AMPA provides adjustment to treatment, allowing to escape from the "control" of biomedicine, a condition that becomes the only daily management alternative. 24 They adjust the medication dose, or adopt the popular knowledge as a standard for maintenance well-being, as well, for these participants, the AMPA has a potential influence on adherence to treatment.

We noticed that by the corporeality is so important to be considered by the deponents, that even before the pressure values obtained by AMPA, they seek the body of manifestation of correspondence, as we can see in the excerpts of the testimony:

[...] For me is when it is 130x80 mm Hg or 120x80 mmHg, then I feel good, willing, like a young girl of 30 years old (laughs). (Oscarina, 79)

[...] For me, normal is 130x90 mmHg because my body looks good so I like being with the pressure that way. (Zuleica, 38)

### ♦ Living with the disease: the step to resignation

We noted when giving the causal relationship of hypertension to old age, an inevitable lifecycle process, they end up considering the chronic condition as something that should be incorporated into their process of living, and end up living despite the disease.<sup>25</sup>

[...] I always feel good, then my blood pressure never, never gets ill. The people who are old have to live carelessly (laughs). Why am I very concerned about the pressure, I am too old, and if I see that it is everything wrong with the pressure I go there to see what these people there do to me [...]. (Luzia, 82)

[...] I do not care about any of that. I just know I have to be happy and not worry about the pressure, pressure everyone has. If it's because I have to live [...]. (Lazara, 63)

On the other hand, there are those who have demonstrated difficulties in living with hypertension, feelings that translate into negative resignation. For them, old age is considered an inevitable stage of decay, declination and predecessor of death. Old age word is full of meanings as restlessness, weakness and distress, <sup>26</sup>

[...] I do not like having high blood pressure, because I see that I'm older every day and useless. (Maria, 78)

Regarding the guidance received by the participants about the AMPA, we observed emphasis on addressing non-pharmacological measures such as control salt intake, restriction of industrial products and animal fats, avoid bad things, not get fat, control nervousness and anxiety, the need to incorporate healthy habits such as exercise in everyday life. Regarding the pharmacological measures, they focused on the need of taking daily medications and information about the cause of the disease.

It has become important to investigate the meanings that these determinations of biomedicine had for the participants. Therefore, it is necessary to consider that often the requirements of health professionals are established as collective rules that do not consider the people's know-do. This mode of action of health professionals, which leaves no room for dialogic to popular knowledge, and context of disregards the life, creates barriers insurmountable to education activities in effective and efficient health. Fragments of some testimonials clarify our interpretations.

[...] I received guidance from my old doctor. But I think it is not quite right. Because everyone knows him, who is the doctor to know if I do bad. The doctor said to measure pressure at home and write, but I think there's useless [...]. (Luzia, 82) [...] He (doctor) said that the packet of salt has to last much more than a month, but I think it is silly to cut the salt. It does well, who says it's bad, it is wrong [...]. (Maria, 78)

We realized that participants did not receive guidance on the behaviors after the measurement of blood pressure. The information, when received in some cases, was only from family and friends. This reality opposed to the fact that for many respondents the blood pressure device and the resulting values of blood pressure measure does not make any sense, nor produces meanings.

Despite the popularity of blood pressure devices in society and measures to selfcontrol, we realized that for some participants this way to handle and evaluate The influence of self-measured pressure...

the disease is not yet part of their culture. This is because the manifestation of corporeality is something impetuous and the "gold standard" for assessing blood pressure and guiding decision-making.

On the role of health professionals, especially nurses, we found that the guidance was exclusively effected by the doctor, except for one participant who mentioned the work of the doctors and nurses. However, we cannot say if it is the nurse or mid-level nursing professional. We infer that nursing in this context, is still far from the care, losing its place in health education activities, a process where people can be helped to experience significant aspects of their lives/health, arising from acute or chronic events step in the vital cycle.<sup>27</sup>

#### FINAL CONSIDERATIONS

Interpretations on hypertension, created from personal experiences and cultural references, bring the issue of the meaning of old age disease distancing from biomedical knowledge. The AMPA is seen with ambiguity, since the corporeality, as a parameter to blood pressure evaluation, was the most reliable data. We realized that the blood pressure values are undervalued among participants.

The popularity of the pressure device brings individuals the biomedical world and manageability by AMPA can empower people, even in their way, to adapt to the biomedical or popular treatment influencing the adherence. As an alternative method of blood pressure monitoring, competes to health professionals, especially in nursing, guidance on technique for measuring blood pressure, as the appropriate equipment and behaviors on the values found, which confirms the adoption of a viable, safe and low-cost method that can help the treatment adherence.

We consider the need for further studies that propose to investigate, on sociocultural perspective, the nurse's role in adherence to treatment of hypertension.

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The influence of self-measured pressure...

Submission: 2015/04/21 Accepted: 2015/11/03 Publishing: 2015/12/01

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