Factors associated to the adherence to the non-pharmachological treatment of hypertension in primary health care

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ABSTRACT
Objectives: to evaluate the factors associated to the adherence to the non-pharmacological treatment of hypertension in primary health care. Methods: cross-sectional study with 421 participants. The adherence was evaluated using the components: weight control, abdominal circumference, physical activity, and alcohol consumption. The chi-squared and Mann-Whitney's tests were used for analysis. Results: the adherence to the control of the abdominal circumference was associated to smoking, sex, and stress. Smoking, age, and profession were associated to weight control. The adherence to a physical activity varied between the sexes and between people who used beta blockers and those who did not. Moderate alcohol consumption was associated to sex, age, profession, income, comorbidities, time using antihypertensive drugs, and using other medication. Conclusions: socioeconomic and clinical factors were associated to the adherence to the anti-hypertensive treatment. Innovative techniques, such as the transtheoretical model of change, motivational interviews, and supported self-care can help in behavioral changes.

Descriptors: Hypertension; Public Health Nursing; Treatment Adherence and Compliance; Primary Health Care; Patient Compliance.

RESUMO

Descritores: Hipertensão; Enfermagem em Saúde Pública; Cooperação e Adesão ao Tratamento; Atenção Primária à Saúde; Cooperação do Paciente.

RESUMEN
Objetivos: evaluar factores relacionados a adhesión al tratamiento no medicamentoso de la hipertensión en Atención Primaria. Métodos: estudio transversal, con 421 individuos. Evaluó la adhesión por los componentes: control de peso, circunferencia abdominal, actividad física y consumo de alcohol — conforme recomendaciones de la 7ª Diretriz Brasileira de Hipertensão Arterial. En la análisis, se utilizaron los testes chi-cuadrado y Mann-Whitney. Resultados: el control de la circunferencia abdominal se asoció con el tabaquismo, sexo y estrés. Tabaquismo, edad y actividad laboral fueron relacionados al control de peso. La adhesión a la actividad física varió entre los sexos y entre individuos que usaban o no beta-bloqueadores. Consumo moderado de alcohol se asoció con el sexo, edad, actividad laboral, renta, comorbilidades (diabetes mellitus y tabaquismo), tiempo de tratamiento antihipertensivo y uso de otros fármacos. Conclusiones: factores socioeconómicos y clínicos relacionados a adhesión al tratamiento antihipertensivo. Técnicas innovadoras como el modelo transteórico de cambio, entrevista motivacional y autocuidado apoyado pueden auxiliar los cambios comportamentales.

Descriptores: Hipertensión; Enfermería en Salud Pública; Cumplimiento y Adhesión al Tratamiento; Atención Primaria de Salud; Cooperación del Paciente.
INTRODUCTION

The adherence to a health treatment prescribed is an essential element for a successful therapy(1). Adherence is here understood as the degree to which the behavior of a person is in accordance with the guidance of a health professional, regarding the use of medication, the attention to a diet, or Lifestyle Changes (LSC)(2).

Not adhering to the treatment of noncommunicable diseases (NDs) has been a challenge for public health both in high-income countries and in those with medium-to-low income(3). In the Brazilian setting, the low adherence is associated to a context of demographic and epidemiological transition of the population. In this regard, the aging of the population has reflected in an increased prevalence of NDs(4).

The arterial hypertension (AH) stands out among NDs due to its high prevalence and to the fact that it is a risk factor for the development of cardiovascular diseases and their complications(4-5). Furthermore, the AH is one of the chronic conditions that generates the highest number of consultations in health services, especially in the Primary Health Care (PHC)(6).

As in other NDs, the AH is not only problematic due to its epidemiological data and to its high prevalence. In this context, the low adherence to antihypertensive treatment has been a reason for a growing preoccupation in dealing with the disease, since it leads to uncontrolled pressure levels and undesirable cardiovascular complications(7).

The concept of “therapeutic adherence” is usually attributed to pharmacological therapy, as opposed to being used in a broader manner that includes behaviors related to lifestyle. However, the treatment of hypertension also involves non-pharmacological measures, such as weight and abdominal circumference control, adequate diet, practice of physical activities, and limited alcohol consumption(4-5).

Considering these aspects, the PHC is the adequate level of health care to manage AH cases, especially from the perspective of non-pharmacological treatment, that is, of a treatment that requires a biopsychosocial approach to the users that involves their beliefs, motivations, and the barriers that prevent them from becoming an actor of their own care(8). However, the daily work of primary care to hypertensive people is marked by providing prescriptions, new or repeated, an by activities of education in health that are disciplinary, preventing an effective therapeutic communication and the consequent adherence to the therapy(8).

Therefore, it is valid to state that the adherence to the treatment to the non-pharmacological treatment of AH is extremely relevant to be studied in PHC, due to its complexity and subjectivity. This work seeks to understand its determinants and project paths that can deal with this issue, in the search for better clinical results.

OBJECTIVES

To evaluate the factors associated to the adherence to non-pharmacological hypertension treatments in the context of primary health care.

METHODS

Ethical aspects

This study was carried out following the ethical precepts for researchers with human beings and was approved by the Research Ethics Committee from the Universidade de Pernambuco.

Design, period, and place of study

Cross-sectional quantitative study, developed from November 2018 to January 2019 in the city of Recife, in the state of Pernambuco (PE). The population of the city was estimated in 1,617,183 people in 2015, with a total of 642,856 people with hypertension registered in this year(10-11). The PHC of the city, in 2017, covered 73% of the city, with 130 family health units, which are made up by 276 family health teams, 56 teams of the community health agent strategy, 20 teams of the center for the support of family health, and 2 teams for street consultations(12).

This study followed the STROBE protocol for cross-sectional studies.

Population or sample; criteria of inclusion and exclusion

The population was formed by people with hypertension whose follow up was done in the PHC.

The city is divided in 8 sanitary districts. Two units from each district were chosen randomly for the selection of participants and data collection, a total of 16 units. The draw included units from every district to guarantee that all had a chance of being drawn and to be one of the settings of the research.

Sample calculation was done using the software Epi Info (version 7.2). Considering the estimated number of people with hypertension in the city in 2015, as well as the prevalence of the event, which is 15.9%(13), in addition to a confidence interval of 95%, a sample error of 5%, and a design effect of 2.0, the necessary number of hypertensive people in the sample would be 410. However, to guarantee a higher margin of participants, in order to compensate for potential losses, 421 hypertensive people were included. They were chosen by convenience, as long as they attended to the following inclusion criteria: having AH, being under clinical follow up in the PHC, and being 18 years old or older. The study did not include people who, due to cognitive limitations, were incapable of providing their consent to participate in the study or to answer the questions of the interview.

Study protocol

The study counted on a script for data collection that included one sociodemographic instrument and one clinical instrument, both elaborated by the researchers, in addition to an instrument for the evaluation of the adherence of participants to non-pharmacological therapies. The latter included the following parameters of non-pharmacological treatment, as recommended by the 7th Brazilian Guideline on Arterial Hypertension: weight and abdominal circumference (AC) control, the practice of physical activity, and alcohol consumption(14). The anthropometric measurements of participants were verified; then, they were asked about the two other components. The cutoff points to classify
the adherence to the components were registered, according to the recommendations of the guideline⁴⁰. People whose BMI was below 25 kg/m² (below 65 years old) or whose BMI was below 27 kg/m² (above 65 years old) were considered to adhere to the component “weight control”. The adherence to the control of AC was found to be true when it was below 80 cm for women and below 94 cm for men.

Concerning physical activity, the study considered as active those who practiced moderate physical activities (≥ 30 minutes/day, continuously or accumulated, from five to seven days a week), aerobic training (≥ 30 minutes/day, at least three times a week), or resistance training (twice or three times a week, with 8 to 10 muscle-training exercises in series from 10 to 15 repetitions with pauses of up to two minutes).

Regarding alcohol consumption, men who ingested up to two doses a day, and women and low-weight people who ingested up to one dose a day were found to be following recommendations. One does means approximately 14 g of ethanol, that is, about 350 ml of beer, 150 ml of wine, or 45 ml of distilled beverages⁴⁰.

In addition to these measures, pressure was controlled by three measurements of arterial pressure in the office, using an automatic sphygmomanometer. The systolic pressure recorded was the mean of these three different measurements.

To minimize assessment bias in the variables, thus guaranteeing the quality of the data collected, a protocol was elaborated to standardize the application of collection instruments, also standardizing the collection of data about arterial pressure, weight, height, and AC. The interviewees were trained to follow the protocol and were periodically supervised in the field of data collection with no previous warning.

**Analysis of results and statistics**

The SPSS software (version 20.0) was used to analyze the data. The statistical test used to verify the relation between some categorical variables was the chi-squared. The odds ratio (OR) was used to estimate relative risk, with a 95% confidence interval (CI 95%). Mann-Whitney’s test was used to verify potential associations among participants (min. and max. values) were of 138 (97-224) and 83 (54 - 148), respectively. Although these median values are below 140/90 mmHg, it was possible to find that, in more than half of the sample (214), the pressure levels were above borderline values.

There was also a clear predominance of nutritional disturbances associated to obesity and overweight. Furthermore, the abdominal circumference had a median of 100 cm for women, varying from 58 cm to 141 cm, with a mean of 101 (±11) cm in men.

The main self-reported conditions in the participants were: stress (69.6%), dyslipidemias (46.1%), diabetes mellitus (35.4%), alcoholism (16.4%), cardiopathy (11.9%), smoking (11.4%), stroke (8.6%), and kidney diseases (6.2%).

**RESULTS**

The socioeconomic and clinical characterization of participants is described in Table 1.

The medians of systolic and diastolic arterial hypertension among participants (min. and max. values) were of 138 (97-224) and 83 (54 - 148), respectively. Although these median values are below 140/90 mmHg, it was possible to find that, in more than half of the sample (214), the pressure levels were above borderline values.

There was also a clear predominance of nutritional disturbances associated to obesity and overweight. Furthermore, the abdominal circumference had a median of 100 cm for women, varying from 58 cm to 141 cm, with a mean of 101 (±11) cm in men.

The frequency of adherence and non-adherence of each of the components evaluated is in Table 2.

Table 3 shows the significant associations in the bivariate analysis of independent variables due to the adherence to the components of a non-pharmacological treatment for AH.
Factors associated to the adherence to the non-pharmacological treatment of hypertension in primary health care

The control of levels of tension was analyzed using systolic and diastolic arterial pressure values. Mann-Whitney's test showed significant variations in the min. and max. diastolic pressure levels between participants who adhered or not to weight control and to a limited consumption of alcohol (Table 4).

**DISCUSSION**

The LSCs incorporated to the treatment of AH are in accordance with the treatment of other chronic conditions, which share the same contextual risk factors\(^{16}\). In this setting, the PHC, as the coordinator of the health care network, is an essential strategy to consolidate the care model in dealing with chronic conditions in a decentralized and longitudinal way, addressing strategies to combat the low adherence to treatments that demand changes in behavior\(^{16}\).

### Table 2 - Distribution of the non-pharmacological adherence of people with hypertension followed up in primary health care, (N = 421), Recife, Pernambuco, Brazil, 2018

<table>
<thead>
<tr>
<th>Categories</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight control</td>
<td></td>
</tr>
<tr>
<td>Adhered</td>
<td>97 (23.2)</td>
</tr>
<tr>
<td>Did not adhere</td>
<td>321 (76.8)</td>
</tr>
<tr>
<td>Abdominal circumference (AC) control</td>
<td></td>
</tr>
<tr>
<td>Adhered</td>
<td>42 (10.0)</td>
</tr>
<tr>
<td>Did not adhere</td>
<td>377 (90.0)</td>
</tr>
<tr>
<td>Physical activity</td>
<td></td>
</tr>
<tr>
<td>Adhered</td>
<td>172 (40.9)</td>
</tr>
<tr>
<td>Did not adhere</td>
<td>249 (59.1)</td>
</tr>
<tr>
<td>Limited alcohol consumption</td>
<td></td>
</tr>
<tr>
<td>Adhered</td>
<td>355 (84.3)</td>
</tr>
<tr>
<td>Did not adhere</td>
<td>66 (15.7)</td>
</tr>
</tbody>
</table>

### Table 3 - Adherence to the non-pharmacological treatment and socioeconomic and clinical variables of hypertensive people followed up in primary health care, (N = 421), Recife, Pernambuco, Brazil, 2018

<table>
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<tr>
<th>Variables</th>
<th>Yes</th>
<th>Adherence</th>
<th>N</th>
<th>No</th>
<th>OR</th>
<th>CI 95%</th>
<th>p*</th>
</tr>
</thead>
<tbody>
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<td>Adherence to weight control</td>
<td></td>
<td>n</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>n</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>≤ 65 years</td>
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<td>243</td>
<td>85.3</td>
<td>0.245</td>
<td>0.152–0.394</td>
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<tr>
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<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>19</td>
<td>16.4</td>
<td>97</td>
<td>83.6</td>
<td>0.563</td>
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<td>224</td>
<td>74.2</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>11</td>
<td>23.4</td>
<td>36</td>
<td>76.6</td>
<td>3.361</td>
<td>1.558–7.251</td>
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</tr>
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<td>8.3</td>
<td>341</td>
<td>91.7</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>23</td>
<td>7.9</td>
<td>269</td>
<td>92.1</td>
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<td>108</td>
<td>85.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adherence to abdominal circumference</td>
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<td>ym</td>
<td>%</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td>ym</td>
<td>%</td>
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<td></td>
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<tr>
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<td>20</td>
<td>6.2</td>
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<td>0.115–0.428</td>
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<td>74</td>
<td>77.1</td>
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<td></td>
</tr>
<tr>
<td>Smoking</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
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<tr>
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<td>11</td>
<td>23.4</td>
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<td>76.6</td>
<td>3.361</td>
<td>1.558–7.251</td>
<td>0.001</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>8.3</td>
<td>341</td>
<td>91.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>92.1</td>
<td>0.486</td>
<td>0.254–0.929</td>
<td>0.026</td>
</tr>
<tr>
<td>No</td>
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<td>15.0</td>
<td>108</td>
<td>85.0</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Adherence to physical activity</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>110</td>
<td>34.0</td>
<td>214</td>
<td>66.0</td>
<td>0.290</td>
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<tr>
<td>Male</td>
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<td>63.9</td>
<td>35</td>
<td>36.1</td>
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<td></td>
</tr>
<tr>
<td>Use of beta blocker</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27</td>
<td>28.4</td>
<td>68</td>
<td>71.6</td>
<td>0.498</td>
<td>0.303–0.818</td>
<td>0.005</td>
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<tr>
<td>No</td>
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<td>55.9</td>
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<tr>
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<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
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<td>Sex</td>
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<td>%</td>
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<tr>
<td>Female</td>
<td>287</td>
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<td>37</td>
<td>11.4</td>
<td>3.308</td>
<td>1.902–5.753</td>
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<tr>
<td>Male</td>
<td>68</td>
<td>70.1</td>
<td>29</td>
<td>29.9</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 65 years</td>
<td>233</td>
<td>80.9</td>
<td>55</td>
<td>19.1</td>
<td>0.382</td>
<td>0.193–0.757</td>
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</tr>
<tr>
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<td>11</td>
<td>8.3</td>
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</tr>
<tr>
<td>Paid work</td>
<td></td>
<td>ym</td>
<td>%</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>88</td>
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<td>29</td>
<td>24.8</td>
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<tr>
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<td>%</td>
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<tr>
<td>≤ 1 minimum wage</td>
<td>224</td>
<td>88.9</td>
<td>28</td>
<td>11.1</td>
<td>2.221</td>
<td>1.361–3.957</td>
<td>0.002</td>
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<tr>
<td>&gt; 1 minimum wage</td>
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<td>38</td>
<td>22.5</td>
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<tr>
<td>Time of antihypertensive treatment</td>
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<td>ym</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 5 years</td>
<td>110</td>
<td>79.1</td>
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<td>20.9</td>
<td>0.573</td>
<td>0.335–0.979</td>
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</tr>
<tr>
<td>&gt; 5 years</td>
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<td>86.9</td>
<td>37</td>
<td>13.1</td>
<td></td>
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</tbody>
</table>

To be continued
This pathology can lead to cardiac arrest and, consequently, to
the adherence to physical activities, which is justified because, in
addition to having a hypotensive effect, this type of medication is
recommended to treat electric conduction cardiac disturbances.

When the issue of overweight and obesity is addressed as a
public health issue, the discussion cannot be only focused on risk
factors related to people and on the non-adherence of people
to behavior changes, since, often, there are adverse social and
environmental contexts that influence it. Therefore, it is also
necessary to discuss this theme taking into consideration the
need for intersectoral public policies that go beyond the walls
of the health sector. This includes diminishing poverty, social
inclusion, and guaranteeing the human right to adequate and
healthy meals[20].

The practice of physical activity had an inverse relation with
the female sex. This result is similar to that of other studies[18,23-24].
It should be highlighted that this could be related to the double
work journey of women, who often need to conciliate work ac-
tivities with domestic chores, which makes it harder for them to
have the free time needed for physical exercise[24].

The main obstacles for physical activities in women, according
to literature, were the absence of an appropriate place to practice,
the lack of company, the lack of energy, and demotivation[25].
These obstacles reiterate how important it is to adopt hybrid
approaches to promote the practice of physical activities: one
directed at the social micro-determinants of health; and another
targeted at the transformation of individual behavior.

There was also a positive association between smoking and both
outcomes of weight and AC control. In this regard, some studies
show the effects of nicotine in weight loss, generally due to an
increased metabolic rate at rest and to the inhibition of appetite[20-21].

The adherence to AC control was lower between women,
with a significant association. This may be related to the higher
increased metabolic rate at rest and to the inhibition of appetite[20-21].
Regarding the adherence to anthropometric parameters,
the association between weight control and older people can
be explained by the increased overweight and obesity in the
Brazilian population of young adults. Furthermore, there is a
tendency of a accentuated decrease in overweight and obesity
after 64 years of age[19].

Participants with paid work were associated to the non-adher-
ence to weight control. This is due to the increase in the percentage
of overweight and obesity in Brazilians in the economically active
age group[19]. This association may be connected to a routine that
is more directed at the professional life, without prioritizing a
healthier lifestyle that can contribute to weight control.

There was also a positive association between smoking and both
outcomes of weight and AC control. In this regard, some studies
show the effects of nicotine in weight loss, generally due to an
increased metabolic rate at rest and to the inhibition of appetite[20-21].

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Adequate anthropometric measurements represent a cardio-
vascular risk and increase arterial pressure[16-17]. Furthermore,
these weight and abdominal circumference changes are related
to physical inactivity, which is very common among participants.

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outcomes of weight and AC control. In this regard, some studies
show the effects of nicotine in weight loss, generally due to an
increased metabolic rate at rest and to the inhibition of appetite[20-21].
Finally, the association between makes and the non-adherence to limiting the consumption of alcohol was also reported in another study\(^{(21)}\). This finding can be attributed to cultural habits in which men are introduced early to alcohol consumption and to the excessive ingestion of alcohol.

The adherence to a limited consumption of alcohol increased in participants above 65 years old. The same tendency was found in Brazilian elders according to the Surveillance of Risk Factors for NDs, from the Ministry of Health\(^{(18)}\).

In the sample studied, the association of paid work and of a higher income to the non-adherence to a limited consumption of alcohol is associated to the fact that these socioeconomic conditions increase the financial dependence and the financial power needed to buy alcoholic beverages\(^{(27)}\).

The association of limited alcohol consumption with time of anti-hypertensive treatment may be associated to the fact that, with time, individuals may have a better perception of the positive effects of a reduced alcohol consumption in the arterial pressure levels\(^{(4,27)}\).

Similarly, the use of medication for other chronic diseases was associated to the adherence to a limited consumption of alcohol. This probably happens because alcoholism is a factor that negatively affects multiple chronic conditions, and the coexistence of these conditions with hypertension requires more attention to health management.

An example found in this study of a chronic condition associated to a better adherence to limited alcohol consumption is diabetes mellitus, corroborating the findings of a research about alcohol consumption patterns in Brazilian elders\(^{(28)}\). This disease increased 2.3 times the likelihood of adhering to limited alcohol consumption. This finding is probably related to the fact that these individuals, since they are diabetic, have been already instructed about the need to avoid alcoholism.

Smoking was also associated to the non-adherence to limited alcohol consumption. This result was also found in a Chinese research\(^{(27)}\).

In short, when the systolic and diastolic pressure levels were evaluated, separating participants in groups according to the adherence or non-adherence to pharmacological components, the participants who adhered to the weight control and to a limited alcohol consumption had lower levels of diastolic pressure, reiterating the positive impact of these measures to reduce pressure\(^{(4,29)}\).

Considering the treatment of disease from a predominantly pharmacological spectrum is associated to a paradigm of care based on a biomedical monocausal model. This undoubtedly reflects the excessive medicalization of the health-disease process in the management of chronic multifactorial diseases such as AH, even in the scope of PHC, where health care needs the individuals, families, and their community to be the main actors.

Promoting the adherence to the non-pharmacological treatment of AH by the LSCs means going beyond merely informative and prescriptive educational activities. For the changes in behaviors and lifestyle to take place, the cultural context of the individuals must be considered, as well as their cognitive and emotional dimensions. An essential strategy is encouraging people to translate information by pointing at practical solutions about how to change within their daily routines. Considering this, some technologies, such as the transtheoretical model of change, the motivational interview, and the supported self-care have been recommended as facilitators of the LSC process in the scope of chronic conditions\(^{(50)}\).

**Study limitations**

Considering the observational design of this study, its results are limited regarding the inference of cause and effect. Therefore, this study generates hypotheses. The fact that the Monitoring of Arterial Pressure in the Ambulatory (MAPA) did not measure arterial pressure was a limitation to be considered, since it may diminish the reliability of the results of pressure control.

**Contributions to the field**

Knowing the profile of adherence and non-adherence to the therapy in people with hypertension under the care of the PHC multiprofessional teams makes it possible to identify the factors connected to failure in the treatment. In this team, nurses have the skills to elaborate strategies to prevent risk factors and promote health to deal with the issue of low adherence in AH, since they work in the direct assistance and monitoring of this population. In this process, it is possible to use co-participation, that is, to encourage users to perform self-care and reflect on their health problems.

**CONCLUSIONS**

The results of this study show that the following factors are associated to the adherence to a non-pharmacological treatment of hypertension: age, sex, income, paid work, smoking, stress, diabetes mellitus, the use of beta blockers, time under anti-hypertensive treatment, and use of other medication.

In the analysis of the control of tension levels, there were significant differences in the values of diastolic pressure among the participants who adhered to weight control and limited alcohol consumption and those who did not.

The identification of which group of participants was more likely to not adhere to a non-pharmacological treatment reiterates the need to incorporate, to the routine of PHC, innovative practices of care to this population that are effective to promote LSCs. Therefore, this article is expected to encourage new reflections directed at reorienting the model of producing care for people with hypertension, in addition to prescriptive aspects and using techniques such as the transtheoretical model of change, the motivational interview, and the supported self-care.

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