

## QUALITY OF LIFE OF WORKERS WITH ARTERIAL HYPERTENSION IN A UNIVERSITY RESTAURANT

Qualidade de vida de trabalhadores com hipertensão arterial atuantes em restaurante universitário

Calidad de vida de trabajadores con hipertensión arterial que trabajan en restaurante universitario

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### ABSTRACT

**Objective:** to evaluate the quality of life of workers with arterial hypertension in a university restaurant.

**Method:** descriptive research with a quantitative approach carried out in a university restaurant using anthropometric measures and application of the Mini Quality of Life questionnaire. **Results:** it was found that 28% of the participants were hypertensive; aged between 40 and 60 years; 31% had a normal body mass index (18.5 - 24.9); 25% were overweight; 31% had obesity I and 12% obesity II; most had completed high school, family history of cardiovascular diseases and consumed alcoholic beverages and smoking; 38% said they felt physical exhaustion and 31%, feeling agony and tension. **Conclusion:** the presence of biological and lifestyle factors such as obesity, physical inactivity and smoking favor the occurrence of arterial hypertension and negatively influence the treatment and prognosis of the disease.

**DESCRIPTORS:** Occupational health; Work conditions; Hypertension; Health education.

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## RESUMO

**Objetivo:** avaliar a qualidade de vida de trabalhadores com hipertensão arterial que atuam em restaurante universitário. **Métodos:** pesquisa descritiva, de abordagem quantitativa, realizada em restaurante universitário, por meio de medidas antropométricas e aplicação do Miniquestionário de Qualidade de Vida. **Resultados:** constatou-se que 28% dos participantes eram hipertensos; com idades entre 40 e 60 anos; 31% estavam com o índice de massa corporal dentro da normalidade (18,5 - 24,9); 25% apresentaram sobrepeso; 31%, obesidade I; e 12%, obesidade II; a maioria tinha ensino médio completo, histórico familiar de doenças cardiovasculares e consumia bebidas alcóolicas e tabagismo; 38% afirmaram sentir esgotamento físico e 31%, sensação de agonia e tensão. **Conclusão:** a presença de fatores biológicos e de estilo de vida, como obesidade, sedentarismo e tabagismo, favorecem a ocorrência da hipertensão arterial e influenciam de maneira negativa o tratamento e prognóstico da doença.

**DESCRIPTORIOS:** Saúde do trabalhador; Condições de trabalho; Hipertensão; Educação em saúde.

## RESUMEN

**Objetivo:** evaluar la calidad de vida de trabajadores con hipertensión arterial que trabajan en restaurante universitario. **Métodos:** investigación descriptiva, con enfoque cuantitativo, realizada en restaurante universitario, utilizándose de medidas antropométricas y aplicación del Mini-cuestionario de Calidad de Vida. **Resultados:** se encontró que 28% de los participantes eran hipertensos; entre 40 y 60 años; 31% tenía índice de masa corporal normal (18,5 - 24,9); 25% tenían sobrepeso; 31%, obesidad I; y 12%, obesidad II; la mayoría había terminado la escuela secundaria, con antecedentes familiares de enfermedades cardiovasculares y consumido bebidas alcohólicas y tabaquismo; 38% dijeron sentir agotamiento físico y 31%, agonia y tensión. **Conclusión:** la presencia de factores biológicos y de estilo de vida, como obesidad, inactividad física y tabaquismo, favorecen la aparición de hipertensión arterial e influyen negativamente en el tratamiento y pronóstico de la enfermedad.

**DESCRIPTORIOS:** Salud laboral; Condiciones de trabajo; Hipertensión; Educación en salud.

## INTRODUCTION

Systemic Arterial Hypertension (SAH) is a circulatory system disease of a chronic nature that has an etiology associated with genetic, socio-environmental, ethnic, food and lifestyle factors.<sup>1-2</sup> In Brazil, it affects 32.5 million adult individuals and 60% of the elderly, contributing as a direct or indirect cause 50% of deaths from cardiovascular, cerebrovascular and renal diseases, and is therefore considered a public health problem.<sup>3-4</sup>

SAH is characterized by high and sustained blood pressure levels, in which the systolic blood pressure (SBP) is above 140mmHg and the diastolic blood pressure (DBP) is above 90mmHg,<sup>4</sup> and may trigger other diseases, such as Diabetes Mellitus, renal failure, hypertensive heart disease, among others<sup>1,4</sup>. It is known that early detection of the disease and follow-up of pharmacological treatment contribute to a better prognosis of people with SAH.<sup>5</sup>

Within the Unified Health System (SUS), the Registration and Follow-up System for Hypertensive and Diabetic Patients (HIPERDIA) enables the acquisition, dispensing, and distribution of drugs in a regular and systematic manner to all registered hypertensive patients.<sup>3,6</sup> The services take place, a priori, in Primary Health Care, through the Family Health teams (nurses, doctors, among others) that develop various health promotion actions, such as medical and nursing consultations, assessment of vital signs, dispensation of medication, educational activities and home visits.<sup>6-7</sup>

Because it is a chronic disease that requires a number of behavior-related changes, whether in self-care, diet, or even lifestyle, SH is still a challenge for patients, families, and health services, especially that of reducing morbidity and mortality and ensuring a higher quality of life (QL) for patients.<sup>8</sup>

It is understood that the concept of QL encompasses aspects related to the concept of health, physical, psychological and social aspects, as well as individuals' own perceptions of QL. Currently, it has been widely used to evaluate elements of daily life, resulting from interventions and clinical conditions, with a view to better design strategies for preventing and coping with HAS.<sup>9-10</sup>

In the national context of the social services sector, the Unidades de Alimentação e Nutrição (UAN) have been adopted as an expanding model, especially among public universities.<sup>11</sup> UAN workers are sometimes contracted by outsourced companies, subject to situations of job insecurity (sector turnover, financial instability, among others) that therefore influence the lifestyle and can trigger the emergence of HAS in this group.<sup>12-13</sup> In some cases, HAS can manifest itself silently and accurately, and must be diagnosed early in order to prevent complications.

When considering the importance of quality of life in the treatment and follow-up of people with HAS, the objective was to evaluate the quality of life of workers with hypertension who work in university restaurants.

## METHODS

Study with observational, descriptive and transversal design, with quantitative approach, carried through with workers of a University Restaurant (UR), located in the city of Natal/RN, Brazil.

Of the 77 workers, 56 accepted to participate in the project entitled "Risk factors for hypertension and quality of life in workers who develop their work activities in the UR". They adopted as inclusion criteria: workers with an active relationship with the restaurant, hypertensive and who deal directly with food handling. And, of exclusion: workers on medical leave, vacation or leave.

The selection of the final sample of workers took place in two stages. The first, through information on blood pressure (measurement of blood pressure of each worker three times, on different days, according to the protocol of the Ministry

of Health).<sup>3</sup> And, the second, through the application of a questionnaire, based on the Hiperdia form.<sup>7</sup> Thus, a final sample of 16 workers was obtained.

Data were collected from December 13, 2016 to January 20, 2017. For primary data collection, a semi-structured interview script was used to characterize the target population of the survey and the Miniquestionnaire on Quality of Life in Hypertension (MINICHAL).<sup>14</sup>

MINICHAL, in the adapted Brazilian version, is a questionnaire composed of 16 items divided into dimensions of Mental Status (1 to 10) and Somatic Manifestations (11 to 16) that address the last seven days, by means of a Likert type scale: zero (absolutely not); 1 (yes, a little); 2 (yes, enough); and 3 (yes, a lot).<sup>14-15</sup> The data obtained through the instrument were analyzed by means of simple descriptive statistics.

The research was approved by the Ethics Committee of the Federal University of Rio Grande do Norte, according to the opinion n° 1,809,224 and Certificate of Presentation for Ethical Appreciation n°. 59965816,8,0000,5537, according to the guidelines and rules regulating research involving human beings, of Resolution n° 466/2012, of the National Health Council.

## RESULTS

The profile of workers in the UR was characterized by the predominance of males, aged between 50 and 59 years (44%), self-declared brown (100%) and the function of cupbearer and cook, with the same percentage (31%). Regarding clinical aspects, they had family history of hypertension (56%), with a history of alcoholism (30%) and physical activity (30%), as shown in Table 1.

**Table 1** - Frequency distribution of socio-demographic variables and clinical aspects of university restaurant workers. Natal-RN-Brazil, 2017.

Variables	Absolute Frequency (n)	Relative Frequency (%)
<b>Age (years)</b>		
20 - 29	01	6
30 - 39	03	19
40 - 49	04	25
50 - 59	07	44
>60	01	6
<b>Ethnicity</b>		
Black	-	
Brown	16	100
White	-	
<b>Function</b>		
Chef	05	31
Kitchen assistant	04	25
Butler	05	31
General services assistant	01	6
Storeroom worker	01	6
<b>Diagnosis of hypertension</b>		
Yes	13	81
No	03	19
<b>Family history</b>		
Hypertension	09	56
Diabetes	05	31
AVE	05	31
IAM	05	31
<b>Habits of life</b>		
Smoking	03	19
Etilism	05	31
Physical Activities	05	31

Table 2 shows the BMI classification of hypertensive workers in the UR. The majority presented BMI between 18.5 - 24.9 (31%), considered normal, and BMI between 30 - 34.9 (31%), with obesity I.

**Table 2** - Frequency distribution of hypertensive university restaurant workers, according to the body mass index. Natal-RN-Brazil, 2017.

BMI	Classification	Absolute Frequency (n)	Relative frequency (%)
Below 18,5	Low weight	-	-
18,5 - 24,9	Normal	05	31
25,0 - 29,9	Excess weight	04	25
30,0 - 34,9	Obesity I	05	31
35,0 - 39,9	Obesity II	02	12
Over 40	Obesity III	-	-

In Table 3, the frequencies of the quality of life variables contained in the MINICHAL questionnaire are verified. Regarding the first domain, Mental State, twelve (75%) said they slept well; fifteen (94%) had no difficulty in maintaining habitual social relations, equal value in relating to people and feeling incapable of enjoying the activities of each day; about feeling incapable of making decisions and starting new things, thirteen (81%) answered no; nine (63%) reported not feeling constantly agonized and tense, the same value referred to not having the sensation that life is a continuous struggle; fifteen (94%) answered no, absolutely; about playing a useful role in life, to enjoy the activities of each day and feel exhausted and without strength, nine (56%) answered no (Table 3).

**Table 3** - Quality of life variables of university restaurant workers, according to the MINICHAL Questionnaire. Natal-RN-Brazil, 2017

MINICHAL variables	NA		YL		YM		YAL	
	N	%	n	%	N	%	n	%
Have you been sleeping badly?	12	75	4	25	-	-	-	-
Have you had difficulty in maintaining your usual social relations?	15	94	1	6	-	-	-	-
He has had difficulty in relating with people	15	94	1	6	-	-	-	-
Do you feel you are not playing a useful role in life?	15	94	1	6	-	-	-	-
Do you feel unable to make decisions and start new things?	13	81	3	19	-	-	-	-
Have you been constantly feeling agonized and tense?	10	63	5	31	1	6	-	-
Do you have the feeling that life is a continuous struggle?	10	63	5	31	1	6	-	-
Do you feel unable to enjoy your daily activities?	15	94	1	6	-	-	-	-
Have you been feeling exhausted and powerless?	9	56	6	38	1	6	-	-
Did you get the feeling you were sick?	10	62	6	38	-	-	-	-
Have you noticed difficulties in breathing or shortness of breath without apparent cause?	8	50	7	44	1	6	-	-
Did you have swelling in your ankles?	14	88	1	6	1	6	-	-
He realized that he has been urinating more frequently	7	44	8	50	1	6	-	-
Has your mouth been dry?	12	75	3	19	1	6	-	-
Have you felt pain in your chest without making physical effort?	12	75	3	19	1	6	-	-
Have you noticed any numbness or tingling in any part of your body?	9	56	6	38	1	6	-	-
Would you say that your hypertension and its treatment have affected your quality of life?	14	88	2	12	-	-	-	-

Legend: NA = No, absolutely; YL = Yes, a little; YM = Yes, a much; YAL = Yes, a lot

In the second domain ten (62%) reported no sensation that they were ill; eight (50%) reported no difficulty in breathing or shortness of breath with no apparent cause; fourteen (88%) reported no swelling in the ankles; eight (50%) noticed a little that they were urinating more frequently; twelve (75%) reported no dry mouth or chest pain without physical exertion; six (56%) reported no numbness or tingling in any part of the body, while fourteen (88%) considered that hypertension and its treatment have not affected their quality of life.

## DISCUSSION

In the study, we observed the prevalence of men over 50 years of age, brown and who performed the function of cook and cupbearer. The Brazilian Society of Cardiology<sup>4</sup> considers SAH a chronic disease, with higher incidence in elderly people, affecting 50% of hypertensive workers over 50 years of age. Because it is a chronic and silent disease,<sup>1-2</sup> people affected by it do not seek treatment and sometimes are unaware of the diagnosis of hypertension.<sup>1-2</sup>

SAH shows itself to be more incident in afrodescendant populations,<sup>16</sup> with more pronounced increase in blood pressure after saline overload, and greater vascular reactivity when exposed to physical and psychological stressors,<sup>17</sup> which makes it inaccurate, when compared with the results of the present study, as to the criterion of racial self-classification, the participants of the research considered themselves of brown color.

Life habits are risk factors for the development of cardiocirculatory diseases<sup>4</sup>. Among hypertensive workers in the UR, rates of alcoholism and smoking were identified, corroborating other studies.<sup>16,18</sup> It is known that the unhealthy living habits of people with HAS directly impact on quality of life and may contribute to the process of worsening the disease.<sup>9-10</sup>

Another aspect found in the group was the low adherence to the practice of physical activity. Sedentarism is an important risk factor for the development of hypertension, because it propitiates the accumulation of fat, increasing the body mass of the individual, raising the levels of low density lipoprotein (LDL) in the blood stream, facilitating the formation of fat plaques inside the blood vessels (atheroma), decreasing the light of the vessel and raising blood pressure.<sup>18</sup>

In a study that analyzed high rates of sedentariness and cardiovascular risk factors in patients with resistant arterial hypertension, men presented prevalence among the hypertensive individuals analyzed, in association with the rates of alcoholism and smoking, which were significantly higher in this group, they still presented a combination of behaviors and risk factors that conferred high risk of cardiovascular complications.<sup>16</sup>

Regarding family history, UR workers reported deaths of relatives due to acute myocardial infarction or stroke. Many hypertensive individuals have genetic inheritance that makes them more likely to develop the disease. It is observed that the practice of physical activity has contributed not only to improve the QL of hypertensive patients, but also to reduce depressive symptoms.<sup>8,18</sup>

The adoption of measures, such as prevention programs, early diagnosis SAH, and public awareness of the importance of healthy living habits, has a direct impact on quality of life.<sup>19-20</sup> In the context of lifestyle variables, the presence of obesity grade I among participants was identified in this study.

A study on the profile of patients registered in Hyperdia who investigated lifestyle, stated that among women, sedentariness is lower, but men presented significant changes in eating habits after entering the program, with reduced fat and salt, with Body Mass Index (BMI) and abdominal circumference above normal standards and most women with overweight.<sup>12</sup> They recommend that the Family Health team perform more actions to promote health and encourage the practice of physical activity, to improve records in the chart.<sup>10</sup>

The results of the scores on quality of life in hypertension, obtained from MINICHAL, did not point to major changes in the mental state and somatic manifestations evaluated, although there are aspects related to lifestyle that can influence the treatment and prognosis of the disease. Moreover, the working environment also reflects on the QL of this group.

The study diagnosed good handling practices in two unidades de alimentação e nutrição (UAN), in a Brazilian municipality, from the RDC No. 216 list, of the National Health Surveillance Agency, which allows to evaluate the hygienic and sanitary conditions of units that prepare meals and, from the observations, seek strategies to correct the

evidenced flaws<sup>21</sup>. Among the inadequacies, those related to buildings, furniture and utensils, manipulators, as well as the storage and transport of food and exposure to consumption of prepared food were highlighted.<sup>21-23</sup>

Another study revealed working conditions as a worrying factor, due to the multiplicity of factors that interfere with the quality of life of individuals, which allows this concept to relate also to working conditions, which directly interfere with the quality of food.<sup>11</sup>

It should also be noted that the total costs of treating hypertension, diabetes, and obesity in the Brazilian Unified Health System (SUS) reached approximately 3.45 billion reais (R\$) in 2018. Of these expenditures, 59% were related to the treatment of hypertension and 11% to obesity. The estimates of costs attributable to the main chronic diseases associated with inadequate nutrition show the great economic burden of these diseases on the SUS.<sup>24</sup>

In this perspective, it is noteworthy that the population of greatest social vulnerability is the most affected by cardiovascular diseases, because in this context, the diseases are diagnosed later and, therefore, people inserted in this conjuncture die prematurely, usually at the most productive age.<sup>25</sup> This situation has a direct impact on the population's quality of life and, at the macroeconomic level, creates a heavy burden on the economies of low and middle income countries.

Furthermore, the need for more effective public policies articulated to the demands of the population in the prevention and control of chronic diseases, especially hypertension, is considered, with a view to mitigating the impacts of illness in the family context and within the SUS.

## CONCLUSION

The findings of the study did not point to major changes in the quality of life variables of hypertensive workers, either in their mental state or even in the somatic manifestations evaluated. However, the presence of biological and lifestyle factors, such as obesity, sedentary lifestyle and smoking were observed, which favor the occurrence of hypertension and negatively influence the treatment and prognosis of the disease.

In this perspective, the need for multiprofessional follow-up of hypertensive workers is emphasized, since this condition of illness affects greatly the quality of life of these people, with serious cardiovascular consequences, often disabling. Therefore, it is pointed out the accomplishment of continuous educational activities directed to this group, in order to promote better control of the overweight, adhesion to the feeding and healthy habits, as well as the treatment of the hypertension.

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