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Sociodemographic Profile and Prevalence of Chronic Non-Communicable Diseases - Hypertension and Diabetes Mellitus in Participants of a Voluntary Health Action in the Municipality of Guarujá - SP.

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ABSTRACT

Systemic arterial hypertension (SAH) and diabetes mellitus (DM) are chronic non-communicable diseases that are major health problems in Brazil, due to their high prevalence and the risk factors associated with cardiovascular diseases, leading to a reduction in the population's quality of life and life expectancy, high morbidity and mortality rates and social and economic costs resulting from the use of health services. In view of this, it is important to know how to prevent these diseases and their complications. The aim of this study was to determine the prevalence of hypertension and diabetes among individuals participating in the Action against Poliomyelitis, which is carried out annually by Rotary and on October 20, 2023 was held in partnership with medical students from the municipality of Guarujá. This was a cross-sectional, descriptive study with a quantitative approach. Sample data was collected at the Horácio Lafer square, where blood pressure was measured and capillary glycosimetry was performed. The study population consisted of 57 patients. The sociodemographic profile, prevalence of hypertension, glycemic profile and prevalence of associated hypertension and diabetes were analyzed. The results showed that there was a predominance of females (56.14%), 32 of whom were aged 19-85, and 25 males (43.85%) aged 17-74. With regard to the prevalence of hypertension, it was possible to see that 6 women and 7 men were hypertensive and 44 individuals had normal blood pressure levels. As for the glycemic profile, 3 women and 3 men had altered random blood glucose levels. One 66-year-old female had associated hypertension and diabetes, with values of 160-120mmHg and 160mg/dL. It is understood that early identification and personalized management of hypertension and DM are fundamental to avoiding complications and improving patients' quality of life. Strategies adapted according to gender and age are necessary to promote health and ensure adherence to treatment, highlighting the importance of ongoing educational programs and specific screening strategies to address this growing health challenge.

Key words: NCDs; SAH; DM.

Introduction

Chronic non-communicable diseases (NCDs) are a public health problem that result in increased mortality, hospitalizations and reduced quality of life. Among the most prevalent diseases in the population are diabetes mellitus (DM) and hypertension (SAH) (FRANCISCO et al., 2018; STOPA et al., 2018; TORTORELLA et al., 2017).

According to the most recent demographic census of the Brazilian Institute of Geography and Statistics (IBGE), released in 2022, there is a notable and accelerated process of population aging underway. The proportion of the elderly population, which was 11.3% in 2012, now represents 15.1%

of the total population. This ageing of the population is directly linked to an increase in the prevalence of CNCDs, which are the main causes of mortality and disability worldwide (GOBBI; PAIVA; CHIEPE, 2012; IBGE, 2022).

The incidence of systemic arterial hypertension affects approximately 30% of the adult population, totaling more than one billion individuals affected by this condition. In addition, it is estimated that half of people with hypertension are unaware of their condition, which increases the risk of preventable medical complications and increases the chances of mortality (RIBEIRO; UEHARA, 2022), with a higher prevalence in men and in low- and middle-income countries (DANAEI et al., 2011).

Due to the high morbidity and mortality associated with hypertension, its character as a chronic disease and the fact that it remains asymptomatic for many years, this issue becomes a constant challenge for health systems around the world and requires adequate early detection and control. The aim is to reduce cardiovascular, cerebrovascular, renal and peripheral arterial complications (RAMOS et al., 2003; SORLIE et al., 2014).

SAH is a chronic multifactorial disease characterized by persistent hypertension and is one of the most important known and controllable risk factors for the development of cardiovascular diseases (CVD), such as heart disease, chronic renal failure and cerebrovascular accidents (CVA) (BARROSO et al., 2021).

Diabetes mellitus (DM) also has a significant impact on the health of the global population. According to data from the World Health Organization (WHO), approximately 422 million people live with this disease, and around 1.6 million deaths a year are attributed to it. In Brazil, in 2019 alone, 107,760 deaths related to diabetes mellitus were recorded, in addition to causing the loss of 3,750,735 disability adjusted life years (DALYs) (MALTA et al., 2022).

DM is a chronic non-communicable metabolic disease caused by multiple factors, characterized by the inability of insulin to perform its physiological functions or is related to defects in insulin synthesis, resulting in permanent elevation of blood glucose, high levels of which can cause a series of symptoms, as well as complications and dysfunctions of vital organs (LIMA et al., 2018). Diabetes has several risk factors, called comorbidities, such as chronic cardiovascular disease, hypertension, obesity, chronic kidney disease and dyslipidemia (FERREIRA et al., 2013; GARCIA; FISCHER; POLL, 2016).

The relationship between hypertension and diabetes is very relevant, especially considering the impact of these conditions on public health. DM and SAH are frequent diseases, with increasing prevalence in Brazil and worldwide. Because of this, their prevention and complications should be considered a priority in public health, since people with CNCDs should take measures to change their lifestyle, which is essential for controlling these diseases, with practices to maintain a healthy diet, regular physical activity and adherence to pharmacological treatment, thus acting in the control and therapy of the diseases (STOPA et al., 2018).

Therefore, this work is justified by the high prevalence of systemic arterial hypertension and diabetes mellitus. These diseases are responsible for the leading cause of morbidity and mortality and hospitalizations in the Unified Health System (SUS) (CAIRES; CHIACHIO, 2020). As such, it is important to study the prevalence of SAH and DM among residents of the city of Guarujá, who are taking part in an action to promote health, in order to disseminate this data, which could stimulate possible dialogues on the subject. In view of this, it is important to know **Objectives**

This study aimed to determine the prevalence of hypertension and diabetes among individuals participating in the Action against Poliomyelitis, which is carried out annually by Rotary and on October 20, 2023 was held in partnership with medical students (UNAERP) in the municipality of Guarujá, in order to contribute to the community in the processes of health promotion and prevention.

Methodology

A cross-sectional, descriptive study with a quantitative approach was carried out. Sample data was collected at the Horácio Lafer square, where blood pressure was measured and capillary glycosimetry was tested.

The methodology for measuring blood pressure was carried out according to the Brazilian Guidelines for Hypertension - 2020, described by Barroso et al. (2021), more specifically in tables 3.2 and 3.3 - which refer to the measurement of blood pressure in the office and the steps for taking blood pressure measurements. Blood pressure was measured manually using a simple stethoscope and a Premium brand sphygmomanometer.

Capillary blood glucose measurement and proper waste disposal were carried out in accordance with the SOP of the UNAERP educational institution, following the recommendations of EMPRESA BRASILEIRA DE SERVIÇOS HOSPITALARES (EBSERH). A digital glucometer was used for monitoring, together with specific G-TECH free reagent strips.

After measuring and evaluating the results, the patients received guidance on the importance of monitoring hypertension (SAH) and diabetes mellitus (DM). This included emphasizing the adoption of healthy habits, the need for adherence to treatment and the availability of emotional support. These guidelines empower individuals to adopt proactive measures to control and prevent complications, with the aim of improving their quality of life and long-term health.

Results and Discussion

This study investigated the prevalence of systemic arterial hypertension and diabetes mellitus among the participants in the health action held in Horácio Lafer square, Guarujá. The characterization of the study population according to sociodemographic variables (age and gender) can be seen in Table 1.

Table 1 - Sociodemographic profile of the participants in the health action held in Horácio Lafer square, Guarujá.

Gender	Age	Quantity
Female	19-85	32
Male	17-74	25

Source: Research data

Among the individuals who took part in the action, there was a predominance of females, 32 individuals aged 19-85, followed by 25 males aged 17-74, corresponding to 56.14% and 43.85% respectively (Table 1).

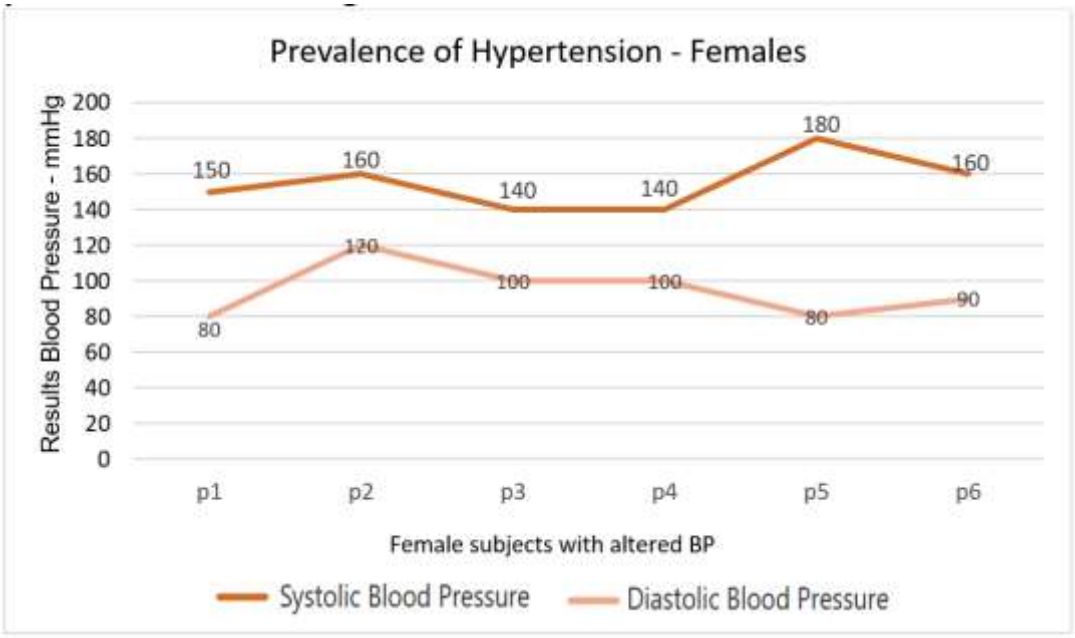
Based on the results, we can see that in the literature men are often characterized as strong beings and less likely to get sick, seeking help only when necessary for treatment, while women have historically prioritized prevention and self-care, both for themselves and for others. This trend may justify the predominance of women in these health care settings (CARNEIRO; ADJUTO; ALVES, 2019; DEUS et al., 2020).

According to Silva et al. (2016), due to cultural issues and different behavioral patterns, men tend to seek health services less often than women. This is because self-care is not a culturally common practice among men. Developing strategies to encourage health care among the male population is considered a major challenge (LEMOS et al., 2017).

In relation to the prevalence of hypertension, it was possible to verify that six female individuals had altered blood pressure (Figure 1), with the values for patient 1 (p1) being 150-80 mmHg, p2 160-120 mmHg, p3 and p4 140-100 mmHg, p5 180-80 mmHg and p6 160-90 mmHg, it can be seen that the patients with altered BP values are at an average age of 56 years, being 52,66,52,43,60 and 64 years respectively.

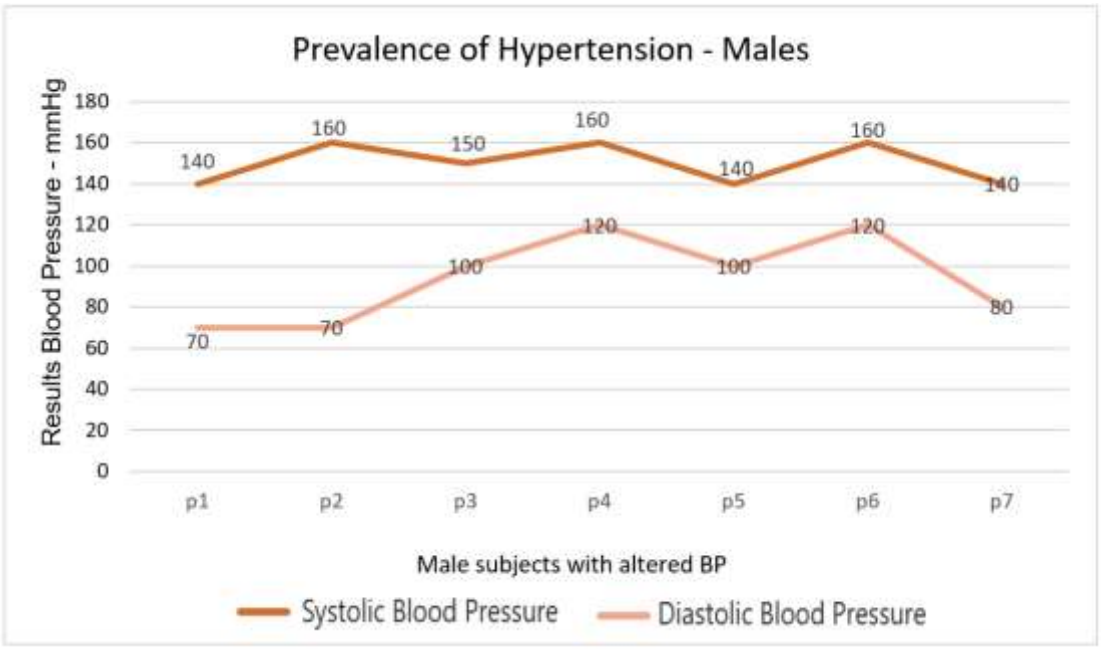
In the case of males, seven individuals had altered blood pressure (Figure 2), with the values for patient 1 (p1) being 140-70 mmHg, p2 160-70 mmHg, p3 150-100 mmHg, p4 160-120 mmHg, p5 140-100 mmHg, p6 160-120 mmHg and p7 140-80 mmHg, among these, the patients with altered BP values were 74, 59, 33, 60, 50, 70 and 62 years old respectively (mean 63 years), with age 50 and over being the most prevalent among both sexes and the individuals assessed in this study.

Figure 1- Prevalence of hypertension among females. Systemic blood pressure results - mmHg.



Source: Research data

Figure 2 - Prevalence of hypertension among males. Systemic blood pressure results - mmHg.



Source: Research data

In younger age groups, men tend to have higher blood pressure than women. However, over the decades, a more marked increase in blood pressure is observed in women. Consequently, in the sixth decade of life, women tend to have higher blood pressure levels and a higher prevalence of hypertension (AH). In both sexes, the frequency of AH increases with advancing age, reaching 61.5% among men and 68.0% among women aged 65 and over (BARROSO et al., 2021; MENNI et al., 2013).

This change can be attributed to the hormonal changes associated with the climacteric and menopause, which can affect women's cardiovascular health (GORGUI et al., 2014).

Following the same line of thought, Silva et al. (2016) cites that in women the development of hypertension may be associated with the use of contraceptives, polycystic ovary syndrome and hormone replacement, as well as stress caused by day-to-day tasks due to professional overloads, with the most affected being in the 50-59 age group.

Still within the age factor, with advancing age, systolic blood pressure (SBP) becomes a more relevant problem due to the progressive hardening and loss of elasticity of the large arteries. Around 65% of individuals over the age of 60 have hypertension (AH), and it is important to consider the epidemiological transition that Brazil is facing, with an expected increase in the number of elderly people (≥ 60 years) in the coming decades. This will result in a substantial increase in the prevalence of AH and its complications (BARROSO et al., 2021; MENNI et al., 2013; SINGH et al., 2012).

Therefore, the studies corroborate the data presented here for gender and age, since it was possible to observe that of 32 women, 6 are hypertensive (Figure 1), with a percentage of 18.75% of the total and of 25 men, 7 are hypertensive (Figure 2), with 28% of the total evaluated and for both men and women we had an average age of 57.5 years, that is, within the values described by the authors mentioned. Although the results show that there was a predominance of women at the clinic compared to men and women affected by changes in BP, the study shows a higher prevalence for men, so even though the male public was fewer in number, they had a higher number of cases of changes in blood pressure, constituting these individuals with systemic arterial hypertension (SAH).

Another highly relevant piece of data in the analysis was the question about knowledge of pre-existing hypertension, in which case we found that four female patients (Figure 1) had previously been diagnosed with hypertension, with values of; p1- 150-80 mmHg, p2 160-120 mmHg, p4 140-100 mmHg and p5 180-80 mmHg. Three of these (p1, p2 and p4) were taking medication to control their systemic blood pressure and two of the patients (p3 and p6) were unaware of their pre-existing hypertension. It is important to note that patient 5 (p5), who had the highest measured value among females, pointed out that she does not use medication to control her BP.

As for the male patients (Figure 2), four had previously been diagnosed with hypertension, with values of: p1- 140-70 mmHg, p4 160-120 mmHg, p5 140-100 mmHg and p6 160-120 mmHg, they reported using medication to control their blood pressure when questioned and among the patients assessed, three had altered blood pressure and had not previously been diagnosed with hypertension; p2 160-120 mmHg, p3 150-100 mmHg and p7 140-80 mmHg, because they were unaware of their state of health, the answer to the question about the use of medication was denied for the three patients (p2, p3 and p7).

According to the Brazilian Society of Cardiology, normal BP comprises individuals with SBP between 120 and 139mmHg and DBP between 80 and 89mmHg, on the other hand hypertension is defined as a BP that exceeds pressure levels above 140/90mmHg, prevention, therefore, can be done with lifestyle changes, such as weight control, a healthy diet, a reduction in sodium intake and an increase in potassium intake. In addition, concrete actions such as continuous education programs for students at vocational schools are seen as preventive measures (BARROSO et al., 2021).

Inadequate blood pressure control is often related to poor adherence to treatment. Adherence, as defined by the World Health Organization (WHO), reflects the degree to which individuals follow health care recommendations (DUNBAR-JACOB; MORTIMER-STEPHENS, 2001; POULTER et al., 2020). This aspect is crucial for the effectiveness of treatment, having a significant impact on quality of life and health-related costs ("Poor adherence to long-term treatment of chronic diseases is a worldwide problem", 2003).

In the case of systemic arterial hypertension (SAH), adherence can be compromised by a number of factors, including individual aspects, health conditions, complexity of therapy, socioeconomic influences, characteristics of the health system, support from the health team and social support (PAN et al., 2021; POULTER et al., 2020). In addition, emotional aspects can play an important role, affecting adherence to measures such as diet and physical exercise (TRIVEDI et al., 2008).

Between 1990 and 2019, cases of systemic arterial hypertension (SAH) in adults aged 30 to 79 grew from 650 million to 1.28 billion globally. Around 82% lived in low- and middle-income countries. In 2019, approximately 59% of women and 49% of men with SAH had already been diagnosed. However, only 47% of women and 38% of men diagnosed were on treatment, resulting in control rates of 23% for women and 18% for men (NCD RISK FACTOR COLLABORATION (NCD-RISC), 2021).

A study comparing blood pressure control in hypertensive women and men revealed that women had higher rates of blood pressure control in various research contexts, including primary health care and in different regions of Brazil, such as São Paulo and the Midwest. The study highlights the importance of personalized blood pressure management strategies, taking into account the individual characteristics of patients (SILVA; OLIVEIRA; PIERIN, 2016).

According to the integrative review carried out by Batista et al. (2022), the main factors influencing lower adherence to systemic arterial hypertension (SAH) treatment among users are factors such as male gender, age group between 20-59 years and low schooling. In relation to the health system, the reduced frequency of consultations at basic health units and the fragility of the link with the health strategy were pointed out as determinants of low adherence. In addition, the study highlights the importance of family support both for adherence to drug treatment and for adopting changes in the lifestyle of hypertensive patients.

Despite well-defined criteria for drug treatment and the presence of non-pharmacological control strategies, hypertension control rates are still low (MILLS et al., 2016). Only a third of Brazilian hypertensive patients achieve satisfactory control of the disease, highlighting the complexity of the issue. This is due to the cost of medication, the need to combine more than one drug, potential side effects, low adherence to treatment and difficulties associated with access to and use of health services (MENDES et al., 2013).

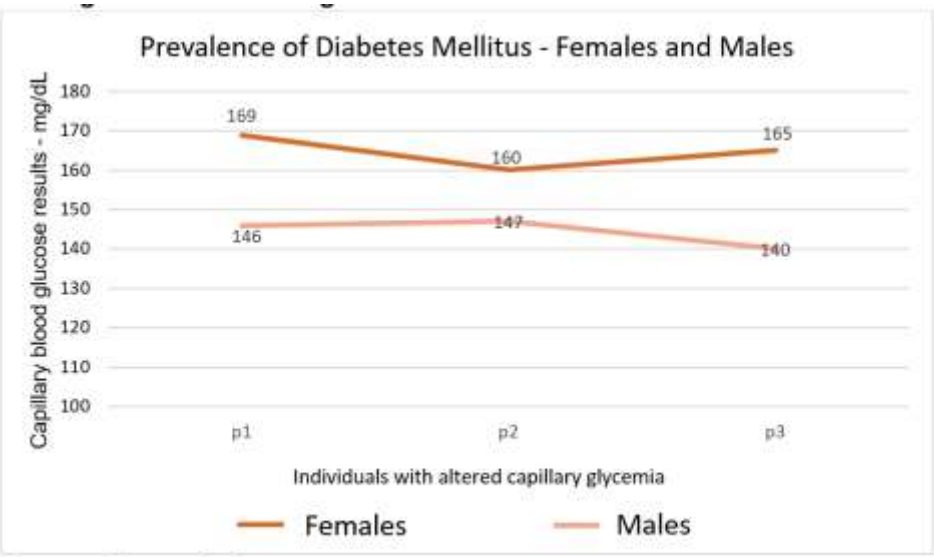
An interesting strategy carried out by Menezes et al. (2020) was the use of a differentiated active search method which enabled a more targeted and personalized approach for patients with hypertension, with the aim of improving their control and quality of life. The study showed a prevalence of systemic arterial hypertension (SAH) in the study population of 42.5%, with the majority of hypertensive patients (94%) already aware of their condition

and undergoing treatment (95%), although only 48% had their blood pressure under control. During the study, 45 new cases of hypertension were identified, 77% of which were found during a different time of active search (Sundays, from 10am to 4pm), representing 27% of the total number of hypertensive patients identified. These findings highlight the importance of both early diagnosis and active search at strategic times to improve hypertension control and prevent complications related to the disease.

For patients who were unaware of the pre-existence of blood pressure alterations, 33.4% for women and 42% for men, we have a higher prevalence in males, confirming what we have been discussing so far, about women having greater self-care and being more regular with their health care, with the benefit of earlier diagnosis compared to men. Therefore, diagnosing hypertension is crucial for identifying cases of the disease, preventing serious complications, monitoring cardiovascular health and guiding appropriate treatment. This information highlights the importance of regular blood pressure measurement as a fundamental part of health assessment and effective management of hypertension (MENEZES; PORTES; SILVA, 2020).

With regard to the glycemic profile, of the total of 57 participants, three females and three males had randomly altered blood glucose levels (Figure 3), the blood glucose values for females being; patient (p1) 169 mg/dL, p2 160 mg/dL and p3 165 mg/dL, the values for males were p1 146 mg/dL, p2 147 mg/dL and p3 140 mg/dL. Thus, it was possible to observe that blood glucose levels changed more for females, with an average of 164 mg/dL prevailing compared to an average of 144 mg/dL for males. However, the prevalence of pre-diabetes or increased risk of DM in this study was higher in men (12%) than in women (9.37%), since we had more female participants (32) than male participants (25).

Figure 3 - Prevalence of Diabetes Mellitus in males and females. Capillary blood glucose results - mg/dL.



Source: Research data

According to the Brazilian Diabetes Society (SBD) 2019-2020 Guidelines, normal random blood glucose values correspond to < 140mgldL, and above this value and < 200mgldL is considered pre-diabetes or increased risk of DM. In the pathophysiological progression of Diabetes Mellitus (DM), changes occur in pre-clinical stages, significantly preceding the formal diagnosis of the disease. During the pre-diabetes period, blood glucose levels exceed normal limits but do not yet reach the defining criteria for DM (AMERICAN DIABETES ASSOCIATION, 2019).

This stage is characterized by the presence of insulin resistance, a condition which, in the absence of interventions aimed at reducing modifiable risk factors, is highly likely to progress to the clinical manifestation of DM, thus increasing susceptibility to cardiovascular disease and its related complications. It is important to note that in most cases of pre-diabetes or DM, patients remain asymptomatic, and the diagnosis is established predominantly on the basis of laboratory criteria (VENCIO, 2017).

Risk factors for type 2 diabetes (T2DM) include a family history of the disease, older age, obesity, a sedentary lifestyle, a previous diagnosis of pre-diabetes or gestational diabetes, and the presence of metabolic syndrome components such as hypertension and dyslipidemia. It is essential to carry out tests to confirm the diagnosis of T2DM in people with signs and symptoms, because even in the absence of symptoms, the presence of risk factors requires screening for early diagnosis. In the event of normal test results, it is suggested to repeat the screening every 3 years or more frequently if necessary. In cases of pre-diabetes, an annual reassessment is recommended (AMERICAN DIABETES ASSOCIATION, 2019; VENCIO, 2017).

The literature documents various factors associated with diabetes mellitus (DM), such as sociodemographic characteristics, family history of the disease, obesity, hypertension, dyslipidemia, insufficient physical activity, smoking and alcohol consumption (BOCQUET et al., 2019; SORLIE et al., 2014).

A study by Goldenberg et al. (2003) highlighted the difference in the detection and prevalence of diabetes between men and women, as well as the influence of social and cultural factors and access to health services. It was possible to observe in this study that initially women were more likely to have pre-diagnosed diabetes, due to their care for their health and their role as caregivers, while men tended to be more likely to be diagnosed through

active search. Over time, this difference between the sexes has diminished, suggesting the importance of different approaches to preventing, detecting and treating diabetes in both groups.

Still in relation to gender, studies show that women tend to have a higher prevalence of diabetes, as they are more susceptible to obesity when compared to men, establishing a link between diabetes and obesity. Obesity is associated with 90% of diabetes cases, which means that only 10% of diabetes cases are linked to factors other than excess weight. (CONTE, et al,2020).

As for the age-related profile of individuals with altered random blood glucose, we have that for males p1-26, p2-56 and p3-39 (mean= 69), for females p1-57, p2-66 and p3-85 (mean= 40), in this way we can observe a difference regarding the age affected, and for females it is possible to observe in an age range above 50 years. It is important to note the significant increase in the prevalence of diabetes mellitus in recent decades, which is driven by the ageing of the population, the increase in obesity and the adoption of unhealthy lifestyles, such as a sedentary lifestyle and an inadequate diet (MALTA et al., 2022).

According to Tolotti and Caparol (2023), the 40 to 59 age group recorded the highest prevalence of patients with the disease in both types of DM (Type I and Type II), followed by the age group of individuals aged 60 or over. This highlights the importance of age as a relevant factor in the analysis of diabetes, indicating that older ages are associated with the presence of the disease. Thus, the relationship between diabetes prevalence and age is a subject that has been widely studied in epidemiological and clinical research into the disease, reflecting the tendency for the prevalence of diabetes to increase at older ages.

In the same way as for SAH, we asked about the pre-existence of diabetes, in which case one female individual confirmed the pre-existence of associated hypertension and diabetes, with values of 160-120mmHg and 160mg/dL. Thus, people with diabetes and hypertension face a set of pathophysiological mechanisms that put them at greater risk of cardiovascular, cerebral and renal complications. In addition, they are often diagnosed with other morbid conditions such as obesity, dyslipidemia, sleep apnea, coagulation disorders and inflammation, further increasing their health risks. A comprehensive approach that considers all these risk factors and comorbidities, proper blood pressure management according to the latest guidelines and the appropriate choice of treatment strategy have contributed significantly to improving the quality of life and, above all, the life expectancy of hypertensive patients with diabetes (MALACHIAS et al., 2016; WHELTON et al., 2018).

Conclusion

Based on the results presented, we can conclude that the prevalence of hypertension and diabetes mellitus among the participants in the health action shows a significant concern for cardiovascular and metabolic health, especially in an older age group. The predominance of women participating in the action suggests a greater awareness and search for preventive care on the part of women compared to men.

Early identification of these conditions, along with personalized management strategies and health education, is crucial to preventing serious complications and improving patients' quality of life. In addition, the need for differentiated approaches for men and women in health promotion and adherence to treatment is evident.

The integration of multiple risk factors and comorbidities, along with attention to the age group and gender of patients, is key to developing effective interventions and promoting positive health outcomes. Therefore, the implementation of ongoing health education programs and screening strategies tailored to the specific needs of each population group is essential to meet the growing challenge of conditions related to SAH and DM.

References

AMERICAN DIABETES ASSOCIATION. 2. Classification and Diagnosis of Diabetes: Standards of Medical Care in Diabetes-2019. **Diabetes Care**, v. 42, n. Suppl 1, p. S13–S28, jan. 2019.

BARROSO, W. K. S. et al. Diretrizes Brasileiras de Hipertensão Arterial – 2020. **Arq. Bras. Cardiol.**, v. 116, n. 3, p. 516–658, 25 mar. 2021.

BATISTA, G. F. et al. Principais fatores que influenciam na adesão do tratamento da Hipertensão Arterial Sistêmica: uma revisão integrativa. **Research, Society and Development**, v. 11, n. 1, p. e26311124760–e26311124760, 6 jan. 2022.

BOCQUET, V. et al. Public health burden of pre-diabetes and diabetes in Luxembourg: finding from the 2013-2015 European Health Examination Survey. **BMJ open**, v. 9, n. 1, p. e022206, 21 jan. 2019.

CAIRES, S. DOS S. G.; CHIACHIO, N. C. F. Prevalência de Hipertensão Arterial Sistêmica e Diabetes Mellitus entre os Trabalhadores da Indústria de Vitória da Conquista, Bahia / Prevalence of Systemic Arterial Hypertension and Diabetes Mellitus among Workers in the Victory Industry of Conquista, Bahia. **ID on line. Revista de psicologia**, v. 14, n. 51, p. 132–143, 30 jul. 2020.

CARNEIRO, V. S. M.; ADJUTO, R. N. P.; ALVES, K. A. P. SAÚDE DO HOMEM: IDENTIFICAÇÃO E ANÁLISE DOS FATORES RELACIONADOS À PROCURA, OU NÃO, DOS SERVIÇOS DE ATENÇÃO PRIMÁRIA. **Arquivos de Ciências da Saúde da UNIPAR**, v. 23, n. 1, 12 fev. 2019.

DANAEI, G. et al. National, regional, and global trends in systolic blood pressure since 1980: systematic analysis of health examination surveys and epidemiological studies with 786 country-years and 5·4 million participants. **The Lancet**, v. 377, n. 9765, p. 568–577, 12 fev. 2011.

DEUS, V. et al. Preceptoria no ensino sobre a saúde do homem na perspectiva do corpo à luz de Merleau-Ponty: uma revisão integrativa. **Research, Society and Development**, v. 9, p. 108932500, 21 fev. 2020.

DUNBAR-JACOB, J.; MORTIMER-STEPHENS, M. K. Treatment adherence in chronic disease. **Journal of Clinical Epidemiology**, v. 54 Suppl 1, p. S57-60, dez. 2001.

EMPRESA BRASILEIRA DE SERVIÇOS HOSPITALARES (EBSERH). POP/UMI.013 – **Aferição da glicemia capilar**. v.01, Hospital Universitário Lauro Wanderley, 2021.

FERREIRA, J. M. et al. Alterações auditivas associadas a complicações e comorbidades no diabetes mellitus tipo 2. **Audiology - Communication Research**, v. 18, p. 250–259, dez. 2013.

FRANCISCO, P. M. S. B. et al. Prevalência simultânea de hipertensão e diabetes em idosos brasileiros: desigualdades individuais e contextuais. **Ciência & Saúde Coletiva**, v. 23, p. 3829–3840, nov. 2018.

GARCIA, C.; FISCHER, M. DE Q.; POLL, F. A. ESTADO NUTRICIONAL E AS COMORBIDADES ASSOCIADAS AO DIABETES MELLITUS TIPO 2 NO IDOSO. **Estudos Interdisciplinares sobre o Envelhecimento**, v. 21, n. 1, 17 ago. 2016.

GOLDENBERG, P.; SCHENKMAN, S.; FRANCO, L. J. Prevalência de diabetes mellitus: diferenças de gênero e igualdade entre os sexos. **Revista Brasileira de Epidemiologia**, v. 6, p. 18–28, abr. 2003.

GORGUI, J. et al. Hypertension as a risk factor for ischemic stroke in women. **The Canadian Journal of Cardiology**, v. 30, n. 7, p. 774–782, jul. 2014.

LEMOS, A. P. F. et al. Men's health: the reasons for men to reach out to health services. **Revista de Enfermagem UFPE online**, v. 11, n. 11, p. 4645–4652, 23 set. 2017.

LIMA, L. R. D. et al. Quality of life and time since diagnosis of Diabetes Mellitus among the elderly. **Revista Brasileira de Geriatria e Gerontologia**, v. 21, n. 2, p. 176–185, abr. 2018.

MALACHIAS, M. V. B. et al. 7th Brazilian Guideline of Arterial Hypertension: Chapter 8 - Hypertension and Associated Clinical Conditions. **Arquivos Brasileiros de Cardiologia**, v. 107, p. 44–48, set. 2016.

MALTA, D. C. et al. Diabetes autorreferido e fatores associados na população adulta brasileira: Pesquisa Nacional de Saúde, 2019. **Ciência & Saúde Coletiva**, v. 27, p. 2643–2653, 17 jun. 2022.

MENDES, T. DE A. B. et al. Factors associated with the prevalence of hypertension and control practices among elderly residents of São Paulo city, Brazil. **Cadernos de Saúde Pública**, v. 29, p. 2275–2286, nov. 2013.

MENEZES, T. D. C.; PORTES, L. A.; SILVA, N. C. D. O. V. E. Prevalência, tratamento e controle da hipertensão arterial com método diferenciado de busca ativa. **Cadernos Saúde Coletiva**, v. 28, n. 3, p. 325–333, set. 2020.

MENNI, C. et al. Heritability analyses show visit-to-visit blood pressure variability reflects different pathological phenotypes in younger and older adults: evidence from UK twins. **Journal of Hypertension**, v. 31, n. 12, p. 2356–2361, dez. 2013a.

MENNI, C. et al. Heritability analyses show visit-to-visit blood pressure variability reflects different pathological phenotypes in younger and older adults: evidence from UK twins. **Journal of Hypertension**, v. 31, n. 12, p. 2356–2361, dez. 2013b.

MILLS, K. T. et al. Global Disparities of Hypertension Prevalence and Control: A Systematic Analysis of Population-based Studies from 90 Countries. **Circulation**, v. 134, n. 6, p. 441–450, 9 ago. 2016.

NCD RISK FACTOR COLLABORATION (NCD-RISC). Worldwide trends in hypertension prevalence and progress in treatment and control from 1990 to 2019: a pooled analysis of 1201 population-representative studies with 104 million participants. **Lancet (London, England)**, v. 398, n. 10304, p. 957–980, 11 set. 2021.

PAN, J. et al. The Effect of Social Support on Treatment Adherence in Hypertension in China. **Patient preference and adherence**, v. 15, p. 1953–1961, 7 set. 2021.

Poor adherence to long-term treatment of chronic diseases is a worldwide problem. **Revista Panamericana de Salud Pública**, v. 14, p. 218–221, set. 2003.

POULTER, N. R. et al. Medication adherence in hypertension. **Journal of Hypertension**, v. 38, n. 4, p. 579–587, abr. 2020.

RAMOS, A. C. M. F. et al. O programa de controle da hipertensão arterial no sistema público de saúde do Município do Rio de Janeiro. **Rev. SOCERJ**, p. 141–145, 2003.

RIBEIRO, A. C.; UEHARA, S. C. DA S. A. Hipertensão arterial sistêmica como fator de risco para a forma grave da covid-19: revisão de escopo. **Revista de Saúde Pública**, v. 56, p. 20, 8 abr. 2022.

SILVA, S. S. B. E. DA; OLIVEIRA, S. DE F. DA S. B. DE; PIERIN, A. M. G. O controle da hipertensão arterial em mulheres e homens: uma análise comparativa. **Revista da Escola de Enfermagem da USP**, v. 50, p. 50–58, fev. 2016.

SILVA, E. C. et al. Prevalência de hipertensão arterial sistêmica e fatores associados em homens e mulheres residentes em municípios da Amazônia Legal. **Revista Brasileira de Epidemiologia**, v. 19, p. 38–51, mar. 2016.

SINGH, G. M. et al. The age associations of blood pressure, cholesterol, and glucose: analysis of health examination surveys from international populations. **Circulation**, v. 125, n. 18, p. 2204–2211, 8 maio 2012.

SORLIE, P. D. et al. Prevalence of Hypertension, Awareness, Treatment, and Control in the Hispanic Community Health Study/Study of Latinos. **American Journal of Hypertension**, v. 27, n. 6, p. 793–800, 1 jun. 2014.

STOPA, S. R. et al. Prevalência da hipertensão arterial, do diabetes mellitus e da adesão às medidas comportamentais no Município de São Paulo, Brasil, 2003-2015. **Cadernos de Saúde Pública**, v. 34, p. e00198717, 22 out. 2018.

TOLOTTI, L. M.; CAPORAL, M. R. Perfil epidemiológico dos pacientes diabéticos em uma macrorregião de saúde do Paraná. **E-Acadêmica**, v. 4, n. 3, p. e0243505–e0243505, 6 set. 2023.

TORTORELLA, C. C. DA S. et al. Tendência temporal da prevalência de hipertensão arterial sistêmica e diabetes *mellitus* entre adultos cadastrados no Sistema Único de Saúde em Florianópolis, Santa Catarina, 2004-2011. **Epidemiologia e Serviços de Saúde**, v. 26, p. 469–480, set. 2017.

TRIVEDI, R. B. et al. The association of emotional well-being and marital status with treatment adherence among patients with hypertension. **Journal of Behavioral Medicine**, v. 31, n. 6, p. 489–497, dez. 2008.

VENCIO, S. C. **Diretrizes da Sociedade Brasileira de Diabetes 2018**. [s.l.] Editora Clannad, 2017.

WHELTON, P. K. et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. **Hypertension (Dallas, Tex.: 1979)**, v. 71, n. 6, p. 1269–1324, jun. 2018.