







# Tertiary prevention action through the HIPERDIA program in a Basic Health Unit in the municipality of Olinda: an experience report



## Ação de prevenção terciária através do programa HIPERDIA em uma Unidade Básica de Saúde do município de Olinda: um relato de experiência

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### Abstract

Tertiary prevention of systemic arterial hypertension and diabetes mellitus is essential to promote comprehensive care for individuals with at least one of these comorbidities. This experience report described the experience of medical students in a tertiary prevention action of the HIPERDIA Program at a Basic Health Unit in the municipality of Olinda, Pernambuco, in May 2023, as part of the curricular unit “integration academy, service, and community.” The students successfully provided comprehensive care to the individuals, educating them about SAH and DM and their complications while emphasizing lifestyle modifications.

**Keywords:** Diabetes mellitus; Systemic arterial hypertension; Tertiary prevention.

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## Resumo

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A prevenção terciária da Hipertensão Arterial Sistêmica e do Diabetes Mellitus é essencial para promover um cuidado integral aos indivíduos que possuem uma ou ambas as comorbidades. O objetivo deste trabalho é relatar a experiência dos discentes do curso de Medicina em uma ação de prevenção terciária do Programa HIPERDIA em uma Unidade Básica de Saúde no município de Olinda, Pernambuco, no mês de maio de 2023, como parte da unidade curricular “integração academia, serviço e comunidade”. Os estudantes puderam proporcionar um atendimento integralizado aos participantes, orientando a população quanto a essas comorbidades e suas complicações, além de reforçar mudanças no estilo de vida.

**Palavras-chave:** Diabetes mellitus; Hipertensão arterial sistêmica; Prevenção terciária.

## INTRODUCTION

Tertiary prevention is developed from actions aimed at mitigating functional damage caused by an acute or chronic disease<sup>1</sup>. In the Unified Health System (SUS), this prevention gains greater prominence based on Law No. 8080/90, which was updated by Law No. 12401/2011. This legislation establishes that one of the main goals of medical care in the public system is the direct relationship between actions that provide assistance and prevention to promote comprehensive care for the individual<sup>2</sup>.

Regarding the prevention of comorbidities, systemic arterial hypertension (SAH) and diabetes mellitus (DM) stand out. According to the Kailuan study, SAH is considered the main risk factor for cardiovascular diseases and is also linked to DM for increasing the chance of micro- and macrovascular complications<sup>3,4</sup>.

SAH is defined as systolic blood pressure of 140 mmHg or diastolic blood pressure of 90 mmHg (or both), measured at least twice without the use of antihypertensive medication. Data from DataSUS (2017) indicated that SAH was associated with 45% of deaths from cardiovascular diseases in Brazil<sup>5</sup>. According to the 2019 National Health Survey, about 25% of the adult population claims to have SAH and the highest prevalence is observed among women, with association with older age groups and race or color (black or brown).

Regarding DM, the World Health Organization reports that since 1980, the number of people affected by this comorbidity has almost quadrupled to over 400 million, and it is projected to reach 693 million by 2045<sup>7</sup>. DM is characterized by changes in two of the following tests: fasting glucose, oral glucose tolerance test, or glycated hemoglobin test, with a focus on the former associated with typical symptoms of hyperglycemia, such as polyuria, polyphagia, and polydipsia<sup>8</sup>.

To facilitate comprehensive care for individuals with SAH and DM in the country, the Min-

istry of Health established the Plan for Reorganization of Attention to Systemic Arterial Hypertension and Diabetes Mellitus in 2002, which led to the creation of the HIPERDIA Program. This program set multidisciplinary goals to expand preventive actions, as well as diagnosis, treatment, and management of these two chronic diseases.

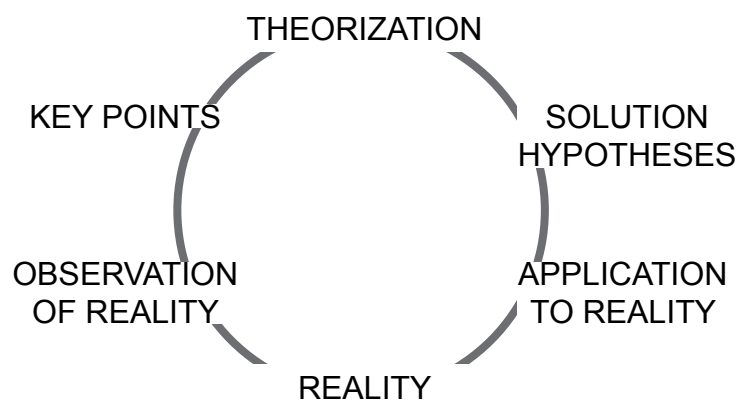
The experience report described the experience of medical students from a higher education institution involved in an action focused on contributing to the HIPERDIA Program and the tertiary prevention of individuals already diagnosed and undergoing treatment for SAH and DM at a Basic Health Unit (BHU) in the municipality of Olinda, Pernambuco.

## METHODS

This descriptive study was based on experiences reported during the theoretical-practical activities of the curricular unit “Integration of Academia, Service, and Community” at a higher education institution. The action occurred in May 2023 at a UBS in the municipality of Olinda (Pernambuco, Brazil).

The central theme of the action was chosen based on the problematization methodology used by the curricular unit, originating from the Arch of Maguerez<sup>10</sup>, which consists of five stages (Figure 1). This method starts with the experience; the problem is defined by the observation of reality, followed by the establishment of hypotheses and solutions applicable to reality<sup>10</sup>.

**Figure 1.** Arch of Manguerez



Source: Prado et al, 2021.

The steps of the Arch of Maguerez<sup>11</sup> were utilized as follows:

- 1) Observing the realities of the region and defining the main health problem: many individuals who attended the BHU presented SAH or DM (or both), especially among the older adults;
- 2) Establishment of key points: the individuals presented a sedentary lifestyle or obesity (or both), poor diet, and irregular or non-adherence to drug treatment;

3) Theorization: After identifying the problem, the theory was supported by the writing of the results using a search in the Virtual Health Library and PubMed databases. The following descriptors of the Health Sciences Descriptors (DeCS) and free terms (FT) platform were searched, including their counterparts in Portuguese and English: “HIPERDIA” (FT), “Hypertension” (DeCS), “Systemic Arterial Hypertension” (DeCS), “Diabetes Mellitus” (DeCS), “Diabetes Mellitus” (DeCS), and “Tertiary Prevention” (DeCS);

4) Solution hypotheses: enhance tertiary prevention actions based on health education and promote adherence to strategic programs, such as the HIPERDIA;

5) Application to reality: emphasize the importance of HIPERDIA and develop related tertiary prevention actions targeting the SAH and DM to ensure the comprehensive care of affected individuals.

## **DISCUSSION**

At the beginning of the action, booklets were delivered during planning, and individuals were informed about the definitions of SAH and DM and their diagnosis. Since the individuals were affected by at least one of these chronic diseases, they were instructed about which foods should be avoided in daily life, as well as the importance of properly using antihypertensive or antidiabetic drugs (or both) as prescribed by the physician responsible for the diagnosis.

The importance of lifestyle changes (e.g. diet quality improvement and physical activity) was also reinforced to improve disease control and prevent complications, such as cardiovascular events and micro- and macrovascular complications, which are closely associated with DM (Figure 2).

Figure 2. Booklet on the steps to healthy eating.



Source: Authors.

On the day of the activity, 12 residents from the region attended the unit. After the explanation about SAH and DM, the students joined the nurse. They were divided into two rooms to measure the blood pressure (BP) and capillary glycemia (HGT) of the individuals.

Among the treated individuals, one presented a BP of 220 x 110 mmHg in two measurements and HGT of 231 mg/dL but was totally asymptomatic and showed no signs of apparent target organ injury, which indicates a hypertensive urgency<sup>12</sup>. The individual received an oral tablet; after one hour, the high BP persisted, and he was instructed by the students and the healthcare team to go to an emergency care unit.

During the capillary blood glucose check, an individual with an HGT of 269 mg/dL was identified despite the oral use of hypoglycemic medication. In this case, the students and the nurse advised on lifestyle changes and recommended seeking medical consultation for laboratory tests and a reassessment of the medication strategy.

The identification of hypertensive urgency and a lack of glycemic control during the health education action corroborates the importance of the follow-up provided by the HIPERDIA program. This importance is reinforced by the need for regular monitoring of BP and blood glucose levels as a strategy to reassess current medications and adjust them when needed, as well as to explore any associated conditions that may increase the risk of SAH and DM complications.

## **CONCLUSION**

Considering the high number of individuals with SAH and DM in the community assisted by this BHU, the need to strengthen health promotion and prevention practices targeted at this group becomes evident.

In this scenario, the meetings promoted by the HIPERDIA Program gain strength as the main strategy for ensuring continuous monitoring of the population. At this moment, the individuals can be assessed and instructed, and the healthcare team can encourage lifestyle changes, such as a balanced diet and physical activity.

Moreover, these activities strengthen the bond between UBS and the community. They are also important for academic training because they allow students to participate in the health system and apply theoretical concepts, such as establishing the bond, coordinating care, integrality, and longitudinality. The union of the multidisciplinary team and the community improves the effectiveness of tertiary prevention and increases the quality of life of the individuals.

## **CONFLICT OF INTEREST**

The authors declare no conflicts of interest.

## **AUTHOR CONTRIBUTIONS**

**TJMBSV:** Writing - original draft, Supervision, and Writing - review and editing; **AJPB:** Writing - original draft, Supervision, and Writing - review and editing; **SOP:** Writing - original draft, Supervision, and Writing - review and editing; **DHB:** Conceptualization, Data curation, Investigation, Methodology, Project administration, Supervision, Writing - original draft, and Supervision and Writing - review and editing. All the authors read and agreed with the final version of the manuscript.

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