



# IJS

## International Journal of Sciences

Published online 11 26, 2022  
ISSN 2763-5392



# Analysis of the impact of nurses' actions on health education of hypertensive and diabetic patients in a basic unit in Pernambuco

Emerson José de Souza Silva<sup>1\*</sup>, Isabel Chryslayne Rocha de Lima<sup>2</sup>, Kayo Emanuel Silva dos Santos<sup>3</sup>, Ândria Beatriz Félix de Araujo<sup>4</sup>, Caroline Dantas Albuquerque Carneiro<sup>5</sup>, Eraldo Rodrigues da Silva<sup>6</sup>, Éverton Barbosa de Lira<sup>7</sup>, Josinete da Silva Lira Leão<sup>8</sup>, Rayana Mirelle de Lima Soares<sup>9</sup>, Rayane Karolly Honório Lima<sup>10</sup>, Isabele Ferraz da Silva<sup>11</sup>, Suenia Maria de Souza Silva Araujo<sup>12</sup>, Janice Vasconcelos de Oliveira<sup>13</sup>, Maria Stella Amorim de Lima<sup>14</sup>

- 1-4 Bachelor's degree in Nursing at University Center of Vitória de Santo Antão - UNIVISA
- 5 Master in Public Health from Oswaldo Cruz Foundation-PE
- 6 Bachelor of Nursing at UNINASSAU - Recife-PE
- 7-9 Bachelor's degree in Nursing from the University Center of Vitória de Santo Antão - UNIVISA
- 10 Bachelor of Nursing at University Center of Guararapes- UNIFG
- 11-12 Bachelor's degree in Nursing at University Center of Vitória de Santo Antão - UNIVISA
- 13-14 Professor of the Bachelor's degree in Nursing at University Center of Vitória de Santo Antão – UNIVISA

**E-mail adresse:** Emerson José de Souza Silva (emersonsouzasilva@outlook.com.br), Isabel Chryslayne Rocha de Lima (isabellima512@gmail.com), Kayo Emanuel Silva dos Santos (kayoemmanuel79@gmail.com), Ândria Beatriz Félix de Araujo (Andriabeatriz16@gmail.com), Caroline Dantas Albuquerque Carneiro (carol\_dantas@hotmail.com), Eraldo Rodrigues da Silva (eraldors1511@gmail.com), Éverton Barbosa de Lira (Everton.toni.12@gmail.com), Josinete da Silva Lira Leão (josinete.202114142@univisa.edu.br), Rayana Mirelle de Lima Soares (rayana.201924055@univisa.edu.br), Rayane karolly Honório lima (rayanekarolly30@gmail.com), Isabele Ferraz da Silva (isabele.202214084@univisa.edu.br), Suenia Maria de Souza Silva Araujo (sueniamsouza@gmail.com), Janice Vasconcelos de Oliveira (nicinha5@hotmail.com), Maria Stella Amorim de Lima (stella\_amorim@hotmail.com)

\*Corresponding author

### To cite this article:

Silva, E.J.S.; Lima, I.C.R.; Santos, K.E.S.; Araujo, A.B.F.; Carneiro, C.D.A.; Silva, E.R.; Lira, E.B.; Leão, J.S.L.; Soares, R.M.L.; lima, R.K.H.; Silva, I.F.; Araujo, S.M.S.S.; Oliveira, J.V.; Lima, M.S.A. *Analysis of the impact of nurses' actions on health education of hypertensive and diabetic patients in a basic unit in Pernambuco. International Journal of Sciences*. Vol. 4, No. 3, 2022, pp.25-29. ISSN 2763-5392, DOI 10.29327/229003.4.3-5

**Received:** 11 14, 2022; **Accepted:** 12 15, 2022; **Published:** 11 26, 2022

**Abstract:** Health education is the foundation for the non-pharmacological control of hypertension and diabetes and proposes reflection on the importance of co-responsibility for self-care. This study aimed to analyze the impact of nurses' actions on health education of hypertensive and diabetic patients in a Basic Health Unit. This was a descriptive, interventionist study with a quantitative approach. Most of the participants were female, married, with incomplete elementary school. The most prevalent risk factors were: family history, stress and sedentary lifestyle. There was an increase in understanding about the concepts of diseases, lifestyle habits, importance of non-pharmacological treatment, recognition and prevention of complications, frequency and quality of food and frequency and duration of physical activity. The findings reinforced the importance of the role of nurses as a health educator and as a promoter of changes in life habits, contributing to the control of diseases.

**Keywords:** Primary Care. Health education. Hypertension and diabetes

## 1. Introduction

The impact of the epidemiological, demographic and nutritional transition associated with individuals' exposure to modifiable risk factors such as smoking, alcohol consumption, physical inactivity and inappropriate feeding influenced the population regarding the development of Chronic Noncommunicable Diseases (NCDs), relevant public health problems, responsible for 72% of deaths in Brazil (MALTA *et al.*, 2020; MALTA *et al.*, 2019). Systemic Arterial Hypertension (SAH) and Diabetes Mellitus (DM) are among the most prevalent NCDs in the country, representing the causes of morbidity and mortality of the Brazilian population (NASCIMENTO *et al.*, 2017; MARIE; NUNES, 2015).

Several can be the strategies for the control of indicators that relate to these diseases, involving from the prevention of new cases, through promotional and preventive health activities, to the implementation and/or maintenance of appropriate therapy to avoid worsening of the installed condition, covering the pharmacological and non-pharmacological treatment, which prioritizes adjustments in life habits (PELAZZA *et al.*, 2020).

Promotion and prevention actions, within the scope of Primary Care, represent the non-pharmacological treatment component and aim to control risk factors through the monitoring of users in an integral and longitudinal way, directly influencing their habits and quality of life (NASCIMENTO *et al.*, 2017).

Health education is the foundation for non-pharmacological control and should be understood as a dynamic process that proposes the reflection of individuals on their health problems, in order to constitute themselves as active subjects and co-responsible for the health-disease process. The formation of therapeutic groups directed to SAH and DM benefits understanding about the health-disease process, increases treatment adhering and contributes to the decrease in the morbidity and mortality rate, positively impacting on quality of life of users (REGNE *et al.*, 2021).

Despite the relevance of health education in the control of SAH and DM, there has been a disbelief in the promotional and preventive methods of nurses who have recently been using, for the most part, only traditional methods of care, based primarily on follow-up the user from its therapeutic process and bringing serious repercussions regarding the adhering to new practices and lifestyle.

In this context, this study aimed to analyze the impact of nurses' actions on health education of hypertensive and diabetic patients in a Basic Health Unit (UBS) in the interior of Pernambuco.

## 2. Methodology

This was an intervention study, descriptive and with a quantitative approach. The study was carried out at the Caraúbas UBS, municipality of Orobó, state of Pernambuco. The choice of unit was justified by the location in the rural area where it is understood that previous cultural and educational factors will contribute to the proof of the effectiveness of

health education by nurses.

The sample consisted of hypertensive and/or diabetic patients, selected by the nurse for participation in the UBS therapeutic group during July and August 2019. Users should be residents in the UBS application area and participate in all health education meetings proposed by the researchers.

Data collection initially occurred through interviews in the home environment of each participant, prior to the beginning of the therapeutic group in the UBS, using a semi-structured form covering socio-demo data User figures, knowledge about the concept and classification of SAH and DM, risk factors for NCDs, forms of treatment with emphasis on the non-pharmacological mechanism and possible complications of pathologies.

After the pre-test, the researchers, in partnership with the nurse, developed a cycle of five educational activities in health in the UBS, following the same logic as the subthemes of the semi-structured questionnaire proposed in the study. At the end of the actions, the post-test phase began where each participant received the same questionnaire for new resolution without external interference at the time of the answers.

The researchers made the proper clarifications about the nature of the study, its objectives, the procedure for data collection, the importance of participation in the study, the possibility of refusal and withdrawal from the research to any time and about the risks and benefits, in addition to ensuring confidentiality of information and ensuring that there would be no cost, compensation or indemnification.

The resulting data were analyzed through descriptive statistics with absolute frequency and percentage, and presented in tables and figures, using the Microsoft Excel software - 2010. The study was approved by the Ethics Committee in Research of the Frassinetti College of Recife, through The Consubstantiated Opinion No. 3,425,661 and CAAE no. 13795218.0.0000.5586, on June 28, 2019.

## 3. Results and Discussion

Initially, 24 participants were selected to make up the monitoring group of users with SAH and DM, during the months of July and August 2019, at the Caraúbas UBS. However, only 13 users met all the inclusion criteria of the study, thus composing the sample.

The median age of the sample analyzed was 59.0 years. Most participants were female (84.6%), married (69.2%) and with incomplete elementary education (69.2%), as shown in Table 1.

**Table 1.** Socio-demo profile Figure of hypertensive and/or diabetic individuals who participated in all health promotional meetings of the therapeutic group of the Caraúbas UBS during July and August 2019 (Orobó, 2019).

Factor evaluated		N	%
Sex	Female	11	84,6
	Male	02	15,4
	Single	01	7,7
Marital status	Married	09	69,2

<b>Schooling</b>	Widower	02	15,4
	Divorced/Separated	01	7,7
	You've never studied	03	23,1
	Elementary school incomplete	09	69,2
	Higher education incomplete	01	7,7

Source: the authors

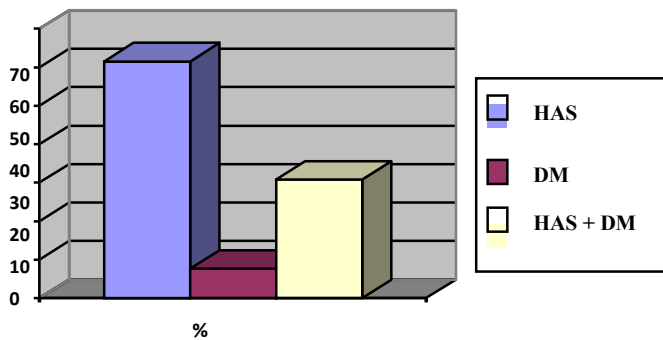
The analysis conducted with a group of participants of a self-care program for patients with SAH and DM, in the city of Passo Fundo-RS, showed a higher frequency of participation of women in educational activities (56%) and a median age of 61 years in the sample (MAGRI *et al.*, 2020). A study conducted at the Mandu II Basic Health Unit, Luziânia, Goiás, showed that women over 60 years of age are the most affected by SAH and DM, which would justify greater participation in health education activities (PÉREZ, 2015).

Meanwhile, Missio *et al.* (2018), in a prospective and experimental study conducted with nine participants of health education groups in the city of Santo Ângelo, showed a higher number of men (66.7%), aged 70 years or older (44.4%), single or divorced (44.4%) and with incomplete elementary education (66.6%) in the sample of their study.

Rocha-Brischiliari *et al.* (2014) emphasized that the incidence of NCDs is related to factors such as age, education and marital status, i.e., the prevalence of these pathologies is higher in individuals over 50 years of age, with lower schooling, in single subjects and in those divorced/separated/widowed.

Study developed by Sarno *et al.* (2020) in 13 Basic Health Units in the South regions of São Paulo, he testified that the proportions of patients diagnosed with SAH, DM and both diseases were 68.0%, 7.9% and 24.1%, respectively. On the other hand, Missio *et al.* (2018) showed a higher prevalence of individuals with the two associated pathologies (55.5%).

The present investigation is opposed to this finding where it was evidenced that 61.5% of the sample had SAH, 7.7% had DM and only 30.8% carried the two associated pathologies, according to Figure 1.



**Figure 1.** Percentage distribution of pathologies in the individuals participating in the sample. (Orobó, 2019). Source: the authors.

The most significant risk factors for SAH and DM found in the sample were: family history (100%), sedentary lifestyle (76.9%), stress (76.9%) and low water intake (61.5%). Table 2 shows the distribution of all risk factors for SAH and DM evaluated in the sample.

**Table 2.** Risk factors for SAH and DM in patients in the therapeutic group of the Caraúbas UBS who composed the sample (Orobó, 2019).

Assessed risk factor	N	%
Hyper sodium/hyperglycemic feeding	06	46,2
Sedentary lifestyle	10	76,9
Low water intake	08	61,5
Overweight	03	23,1
Family history	13	100,0
Stress	10	76,9
Smoking	05	38,5
Passive smoking	02	15,4
Frequent alcohol intake	02	15,4

Source: the authors.

Sousa *et al.* (2019), in a descriptive cross-sectional study conducted with data from the HiperDia program of the municipality of Sobral, in the state of Ceará, revealed that the most prevalent risk factor was sedentary lifestyle (44.01%), followed by overweight/obesity (32.62%) and smoking (24.89%).

Besides, Tormas *et al.* (2020) when evaluating the risk factors present in a group of hypertensives and/or diabetic patients from a Family Health Unit in the city of Rondonópolis, found salt intake as the main risk factor (30%) accompanied by alcohol (6.66%) and sugar (10%) in its sample. Tables 03 and 04 show the findings on the impact of nurses' actions on health education in the sample at the Caraúbas UBS.

**Table 3.** Data on the responses of individuals before and after the educational activities on SAH of the therapeutic group at the Caraúbas UBS (Orobó, 2019).

Pretest Questions evaluated	Post-test		Impact Obtained
	N (%)	N (%)	
SAH is a chronic disease characterized by low blood pressure levels	Sure 08 (61,5)	Sure 01 (7,7)	↑53,8%
	Wrong 05 (38,5)	Wrong 12 (92,3)	
The pressure usually increases with the intake of too much salt and fat and low intake of water	Sure 10 (76,9)	Sure 11 (84,6)	↑7,7%
	Wrong 03 (23,1)	Wrong 02 (15,4)	
Use of medication as a main method of treatment	Sure 08 (61,5)	Sure 02 (15,4)	↑46,1%
	Wrong 05 (38,5)	Wrong 11 (84,6)	
Infarction and effusion are results of non-Controlled	Sure 11 (84,6)	Sure 13 (100,0)	↑15,4%
	Wrong 02	Wrong 00 (0,0)	

The frequency of follow-up of SAH in the UBS is every 03 months	Sure	04 (15,4)	Sure	03 (23,1)	↑7,7%
	Wrong	09 (30,8)	Wrong	10 (76,9)	
		09 (69,2)			

Source: the authors

In view of the data collected, it was possible to observe a positive impact on all questions after the educational activities. Thus, the changes in understanding about the concept of SAH (53.8%) and the relevance of non-drug treatment for the pathology (46.1%). The therapeutic group also contributed to the recognition of eating habits linked to SAH, to the complications of the disease and to the understanding of the periodicity of follow-up by primary care teams, with an impact of 7.7%, 15.4% and 7.7%, respectively.

Table 4 shows the impact of educational activities on DM on the individuals in the sample.

**Table 4.** Data on the responses of individuals in the sample before and after the educational activities on DM of the therapeutic group at the Caraúbas UBS (Orobó, 2019).

Questions evaluated	Pretest		Post-test		Impact Obtained
		N (%)		N (%)	
DM is characterized by decreased blood glucose	Sure	05 (38,5)	Sure	01 (7,7)	↑30,8%
	Wrong	08 (61,5)	Wrong	12 (92,3)	
There are three types of diabetes: I, II and III	Sure	09 (69,2)	Sure	09 (69,2)	Without impact
	Wrong	04 (30,8)	Wrong	04 (30,8)	
Signs and symptoms of DM: polyphagia, polydipsia, weight loss and pollakiuria	Sure	11 (84,6)	Sure	13 (100,0)	↑15,4%
	Wrong	02 (15,4)	Wrong	00 (0,0)	
Frequency of feeding for DM control (03 meals/day)	Sure	04 (30,8)	Sure	00 (0,0)	↑30,8%
	Wrong	09 (69,2)	Wrong	13 (100,0)	
White rice and dry wafer prevent blood sugar from increasing	Sure	03 (23,1)	Sure	00 (0,0)	↑23,1%
	Wrong	10 (76,9)	Wrong	13 (100,0)	
Recognition of diabetic neuropathy as uncontrolled with the head with the body and having as a cause of family relationship	Sure	08 (61,8)	Sure	01 (7,7)	↑53,8%
	Wrong	05 (38,5)	Wrong	12 (92,3)	
<u>Use of closed shoe</u>	Sure	07	Sure	01 (7,7)	↑

increases the risk of foot injury		(53,8)		46,1%
	Wrong	06 (46,2)	Wrong	12 (92,3)

Source: the authors.

Through the references exposed, there was a positive effect in virtually all questions about DM, except for the classification of the disease. The understanding about diabetic neuropathy (53.8%) and the use of closed shoes in the prevention of diabetic ulcers (46.1%) deserves to be highlighted. In the post-test phase, it was also possible to verify a change in response on the concept of DM (30.8%), signs and symptoms of the disease (15.4%), importance of feeding fractionation (30.8%) and recognition of glucose-rich foods (23.1%).

A prospective cohort study conducted with a population of 100 individuals revealed a significant increase in the knowledge of the population participating in educational actions on Hypertension and Diabetes Mellitus, it is worth noting that in all the themes addressed there was an increase in knowledge in the post-test phase (MAGRI *et al.*, 2020). The study by Silva *et al.* (2019) corroborates this finding and emphasizes that health education actions should be incorporated into the practice of family health teams, emphasizing the relevance of non-pharmacological therapeutic care. Therefore, the authors state that when the patient receives quality information, the chances of behavior and lifestyle change in the face of his/her disease increase, making him co-responsible for the treatment and administration of his condition.

Silva *et al.* (2014), in a qualitative and descriptive study conducted with nine participants of the hypertensive and diabetic group of a family health strategy team, highlight that the activities in a therapeutic group favor health education, providing the deepening of discussions and facilitating the collective construction of knowledge.

The knowledge of Cruz *et al.* (2018) demonstrated reorientation of the traditional HiperDia group, which is usual, to value the role of patients in their care process. The importance of popular knowledge in the process of educating in health is emphasized, based on the contextualization of reality, based on the valorization of the stories and experiences of each participant.

Mendonça and Nunes (2014) also report that participation in therapeutic groups allows dialogue, exchange of knowledge, construction of knowledge, favoring interpersonal relationships, contributing significantly to the quality of life of hypertensive and diabetic people.

It is reinforced that when these activities provide reports of experiences among the participants, they provide an integrative process between them, since the clinical picture of one patient helps the other to understand the late complications that pathologies cause, generating a positive impact self-care (OLIVEIRA *et al.*, 2017).

Therefore, in relation to the role developed by nurses in the health education of hypertensive and diabetic patients,

Souza *et al.* (2018) concluded that although most nurses develop educational activities, there is a need for strategies that stimulate critical manifestation and the construction of knowledge. Therefore, the authors highlight the importance of strengthening permanent education for them, aiming to improve the activities developed.

#### 4. Conclusions

Health education in the Family Health Strategy should be seen as the main mechanism promoting a healthy life for people with these chronic diseases today. Since the educational process promoted by nurses positively impacts the health of hypertensive and diabetic individuals, increasing knowledge about the aspects that permeate diseases, culminating in the greater possibility of changes in practices, control of risk factors, enhancing the decrease in prevalence of SAH and DM and consequently the improvement of quality of life. The study contributed to support municipal management scans in encouraging the formation of therapeutic groups in basic units for the purpose of health promotion and prevention.

#### References

- [1] CRUZ, P. *et al.* Educação popular como orientadora de grupos de promoção à saúde de pessoas com hipertensão e diabetes na atenção básica: caminhos e aprendizados com base em uma experiência. *Rev. APS.*, Minas Gerais: v. 2, n.3, jul/set. 2018.
- [2] MAGRI, S. *et al.* Programa de educação em saúde melhora indicadores de autocuidado em diabetes e hipertensão. *Rev. Eletron Comun Inf Inov Saúde.*, Rio de Janeiro: v. 14, n. 2, p. 386-400, abr./jun. 2020.
- [3] MALTA, D. C. *et al.* Doenças Crônicas Não Transmissíveis na Revista Ciência & Saúde Coletiva: um estudo bibliométrico. *Cien. Saud. Colet.* Rio de Janeiro: v. 25, n. 12, p. 4757-4769, dez. 2020.
- [4] MALTA, D.C. *et al.* Probabilidade de morte prematura por doenças crônicas não transmissíveis, Brasil e regiões, projeções para 2025. *Rev. bras. epidemiol.* São Paulo: v. 22, n. e190030, 2019.
- [5] MENDONÇA, F.F.; NUNES, E.F.P.A. Avaliação de grupos de educação em saúde para pessoas com doenças crônicas. *Trab.Educ.Saúde*, Rio de Janeiro: v.13, n.2, p.397-409, maio/ago.2015.
- [6] MENDONÇA, F.F.; NUNES, E.F.P.A. Atividades participativas em grupos de educação em saúde para doentes crônicos. *Cad. Saúde Coletiva*, Rio de Janeiro: v. 22, n. 2, p. 200-204, jun. 2014.
- [7] MISSIO, R. *et al.* Impacto de grupos de educação em saúde na qualidade de vida de hipertensos e diabéticos. *Revista Contexto & Saúde*. Florianópolis: [S. l.], v. 18, n. 35, p. 42-49, 2018.
- [8] NASCIMENTO, M.A. *et al.* Assistência de Enfermagem no programa HIPERDIA: relato de experiência em estágio supervisionado. *Cuid.art.enfermagem*. Catanduva: v. 11, n.1, p. 231-238, jul-dez, 2017.
- [9] OLIVEIRA, J.E.P. *et al.* Diretrizes da Sociedade Brasileira de Diabetes 2017-2018 [Internet]. São Paulo: Editora Clannad; 2017 [citado 2021 mai. 28]. Disponível em: <https://www.diabetes.org.br/profissionais/images/2017/diretrizes/diretrizes-sbd-2017-2018.pdf>
- [10] PELAZZA, B.B. *et al.* Ações específicas para o controle da pressão de pulso em hipertensos e diabéticos. *Rev. Nurs.* São Paulo: v. 23, n. 261, p. 3594-3599, fev. 2020.
- [11] PÉREZ, J. R. H. Saber mais: intervenção educativa junto a pacientes hipertensos e diabéticos. (Pós graduação em Atenção Básica em Saúde da Família). Universidade Federal de Mato Grosso do Sul, Campo Grande, 2015. Disponível em: <file:///C:/Users/Stell/Desktop/PI%20Jesus.pdf>. Acesso em: 20 maio 2019.
- [12] REGNE, G.R.S. *et al.* Intervenções para portadores de doenças crônicas não transmissíveis: relato de experiência e estudo epidemiológico. *Rev. Pesq. Cuid. Fundam.* Rio de Janeiro: v. 13, p. 763-767, jan/dez. 2021.
- [13] ROCHA-BRISCHILIARI, S.C.R. *et al.* Doenças crônicas não transmissíveis e associação com fatores de risco. *Rev. Bras. Cardiol.* Rio de Janeiro: v. 27, n. 1, p. 35-42, jan./fev. 2014.
- [14] SARNO, F. *et al.* Perfil de pacientes com hipertensão arterial e/ou diabetes mellitus de unidades de atenção primária à saúde. *Einstein (São Paulo)*., São Paulo: v.18, n. eAO4483, 2020.
- [15] SILVA, F.H.M. *et al.* Intervenção de saúde sobre hipertensão e diabetes. *Rev enferm UFPE on line.*, Recife: v.13: e240593, 2019.
- [16] SILVA, F. M. *et al.* Contribuições de grupos de educação em saúde para o saber de pessoas com hipertensão. *Revista Brasileira de Enfermagem* [online]. São Paulo: v. 67, n. 3, p. 347-353, 2014.
- [17] SOUSA, N.A. *et al.* Fatores de risco e complicações em diabéticos/hipertensos cadastrados no hiperdia. *Rev. Saud. Pub. Sobral*: v. 18, n. 01, p. 31-39, Jan./Jun, 2019.
- [18] SOUZA, E. *et al.* Educação em saúde a portadores de hipertensão e diabetes na atenção primária. *Rev. Nurs.*, São Paulo: v.21, n. 240, p. 2178-2183. 2018.
- [19] TORMAS, D.P. *et al.* Hipertensão e/ou diabetes mellitus em uma estratégia saúde da família: perfil e associação aos fatores de risco. *RIES*. Santa Catarina: v. 09, n. 01, p. 59-75, 2020.