

## CASE REPORT ARTICLE

### HOME HEALTH EDUCATION OF HYPERTENSIVE AND/OR DIABETIC ELDERLY EDUCAÇÃO EM SAÚDE NO DOMICÍLIO DE IDOSOS HIPERTENSOS E/OU DIABÉTICOS EDUCACIÓN EN SALUD EN EL HOGAR DE ANCIANOS HIPERTENSIVOS Y/O DIABÉTICOS

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#### ABSTRACT

**Objective:** to report the experience of educational sessions on cardiovascular health in the home of elderly people with arterial hypertension and/or Diabetes Mellitus. **Method:** this is a descriptive study, of the experience report type, which consisted of educational sessions on cardiovascular health at home with 164 hypertensive and/or diabetic elderly people. The data were analyzed descriptively. **Results:** it was noted that the elderly adhered to the activities more than the elderly. It was highlighted that most of the elderly thought that healthy eating was expensive, being impressed with the explanation about cigarette additives and their harmful effects. It appears that the elderly who did not practice physical activity justified the absence of this practice due to lack of interest and lack of enthusiasm. **Conclusion:** it is concluded that home visit is a strategy to develop educational sessions on cardiovascular health of hypertensive and/or diabetic elderly, especially male and with increased cardiovascular risk. **Descriptors:** Aged; Cardiovascular Diseases; Health Education; Health Promotion; House Calls; Nursing.

#### RESUMO

**Objetivo:** relatar a experiência de sessões educacionais sobre saúde cardiovascular no domicílio de idosos com hipertensão arterial e/ou Diabetes Mellitus. **Método:** trata-se de um estudo descritivo, tipo relato de experiência, que consistiu na realização de sessões educativas sobre saúde cardiovascular no domicílio de 164 idosos hipertensos e/ou diabéticos. Analisaram-se os dados de modo descritivo. **Resultados:** notou-se que as idosas aderiram mais às atividades do que os idosos. Destacou-se que a maioria dos idosos pensava que a alimentação saudável era dispendiosa, impressionando-se com a explicação sobre os aditivos do cigarro e seus malefícios. Verifica-se que os idosos que não praticavam atividade física justificaram a ausência dessa prática pelo desinteresse e pela falta de entusiasmo. **Conclusão:** conclui-se que a visita domiciliar é uma estratégia para se desenvolver sessões educativas sobre saúde cardiovascular de idosos hipertensos e/ou diabéticos, principalmente os do sexo masculino e com risco cardiovascular aumentado. **Descritores:** Idoso; Doenças Cardiovasculares; Educação em Saúde; Promoção da Saúde; Visita Domiciliar; Enfermagem.

#### RESUMEN

**Objetivo:** informar la experiencia en sesiones educativas sobre salud cardiovascular en el hogar de ancianos con hipertensión arterial y/o diabetes mellitus. **Método:** este es un estudio descriptivo, un informe de experiencia, que consistía en la realización de sesiones educativas sobre salud cardiovascular en el hogar con 164 ancianos hipertensos y/o diabéticos. Los datos fueron analizados descriptivamente. **Resultados:** se observó que las ancianas se adherieron a las actividades más que los ancianos. Se destacó que la mayoría de los ancianos pensaba que una alimentación saludable era costosa; se quedaron impresionados por la explicación de los aditivos de cigarrillos y sus efectos nocivos. Los ancianos que no practicaban actividad física lo justificaban la ausencia de esta práctica por su falta de interés y falta de entusiasmo. **Conclusión:** se concluye que las visitas domiciliarias son una estrategia para desarrollar sesiones educativas sobre salud cardiovascular de ancianos hipertensos y/o diabéticos, especialmente hombres y personas con mayor riesgo cardiovascular. **Descriptores:** Anciano; Enfermedades Cardiovasculares; Educación en Salud; Promoción de la Salud; Visita Domiciliaria, Enfermería.

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## INTRODUCTION

It is noteworthy that Cardiovascular Diseases (CVDs) are the main cause of death in the world population.<sup>1</sup> In Brazil, they are known to be, in addition to Diabetes Mellitus (DM), the primary cause of morbidity and mortality, despite the 30% reduction in recent years.<sup>2</sup> It is noteworthy that Arterial Hypertension (AH) and DM are the most common conditions in the elderly and contribute to the appearance of secondary conditions, such as stroke and acute myocardial infarction.<sup>3,4</sup>

It is found in the literature that injuries in people with AH and DM are preventable and are altered by the change in risk behaviors, including from sedentary lifestyle, smoking and drinking to the poor knowledge of the therapeutic regime, prognosis and disease complications.<sup>5</sup>

It is emphasized that, in order to be successful in controlling DM and AH, it is necessary to develop new and stronger partnerships between government agencies and civil society, in actions aimed at the prevention, detection and control of diseases, therefore, the strategies should promote a healthy lifestyle, changes in habits in relation to the consumption of certain foods and soft drinks and encourage physical activity.<sup>3,4</sup>

It is understood that educational health practices are useful strategies to encourage the adoption of cardiovascular protection habits in elderly people with CNCs. It is understood that health education is a communication technology between professionals and UHS users and allows the promotion of positive changes in patients' knowledge and behavior.<sup>7,8</sup>

It is observed, in elderly people with AH and DM who go to Nursing consultations for guidance on changes in lifestyle, a lack of interest in participating in educational actions while waiting in health units. In order to respond to this demand, the educational session at home is adopted, a strategy in which the elderly receive health information at home, without the need to travel to the health unit.<sup>6,7</sup>

It is highlighted in the literature that home visits favor problematization, the insertion of professionals in the reality of the elderly and the construction of knowledge and skills in health. It is evaluated, by bringing professionals closer to the health and living conditions of patients, that the visit allows to adapt the guidelines and activities to the real needs of the elderly, in addition to integrating family members to the actions carried out.<sup>6-8</sup>

It was observed, in a research that evaluated the health conditions and cardiovascular risk factors of 246 elderly people from 12 municipalities of Maciço de Baturité, in the State of Ceará, that more than 50% of the sample had

altered blood pressure and 34, 6% had altered glycemic indexes. In the same study, 22.8% of the elderly had borderline cholesterol and 12.6% had high cholesterol. This cardiovascular risk factor was associated with alcoholic beverages.<sup>9</sup>

It was found, through the findings of this research, that it was important to develop university extension projects for the promotion of cardiovascular health of the elderly in Maciço de Baturité. It was described that the first activities were educational sessions at the home of the elderly in six of the 13 municipalities in the region: Aratuba (20); Baturité (76); Itapiúna (28); Ocara (25); Pacoti (33) and Redenção (42).<sup>8</sup> However, it was emphasized that the elderly who could not participate in this project reported the desire to receive the activity at home, at another time.

It was noticed that it was necessary to expand the educational sessions to include more elderly people, including those who are part of the hypertension and diabetes program (HIPERDIA) of health units. It is pointed out that a new series of educational sessions at home was promoted to promote cardiovascular health of the elderly in Maciço de Baturité.

## OBJECTIVE

- To report the experience of educational sessions on cardiovascular health in the home of elderly people with arterial hypertension and/or Diabetes Mellitus.

## MÉTODO

This is a descriptive, experience report type study by nursing students at the University for International Integration of Afro-Brazilian Lusophony, about a university extension project for the promotion of cardiovascular health in elderly people with AH and DM. It is informed that the execution strategy was the health education session through home visits.

The activity took place in the municipality of Aracoiaba, which is in the Maciço de Baturité region, in the State of Ceará. This municipality was chosen because it was not possible to include its elderly people in the first cardiovascular health promotion actions, in 2014. In the second project, developed in 2015, a small number of participants who were from a Social Assistance Reference Center (CRAS) in the municipality in question were reached.<sup>10</sup>

In addition, it was observed that Aracoiaba was the municipality of Massif de Baturité with the highest mortality from diseases of the circulatory system in 2015. It was calculated, according to the Mortality Information System, that, of the 259 deaths from this group of diseases, 62 (23.9%) were in Aracoiaba, with the deaths being mainly of people over 60 years old (83.3%).<sup>11</sup>

Educational sessions were held with hypertensive and diabetic elderly people assigned to a Basic Health Unit (BHU) and a CRAS. It is registered that nursing students visited these institutions to invite and clarify the elderly about the activity. It is noted that those who consented to participate informed their address and scheduled the most convenient day and time to carry out the home visit and the educational session.

The sample was composed of 164 elderly people. Of this total, it is known that 153 were from the HIPERDIA of a BHU and 11 were members of recreation and leisure groups of the CRAS of Aracoiaba. A lower participation of elderly people from CRAS was obtained because, during the recruitment phase, there was a recess of recreation and leisure activities in the service, which prevented the contact of academics with the elderly of the institution.

Regarding participation in educational sessions, the following inclusion criteria were adopted: being 60 years of age or older; be from HYPERDIA and/or participate in CRAS activities and have AH and/or DM. Those who were traveling on the day of the home visit were excluded.

The sessions were divided into two cycles: the first involved the elderly at BHU and took place between September 2016 and August 2017 and the second cycle was carried out with the elderly at CRAS and took place between September and November 2017. Folders, posters and pictures were made and a table with the anti-hypertensive and anti-diabetic medication schedules was used. With the support of this material, the elderly were instructed about the modification of cardiovascular risk factors.

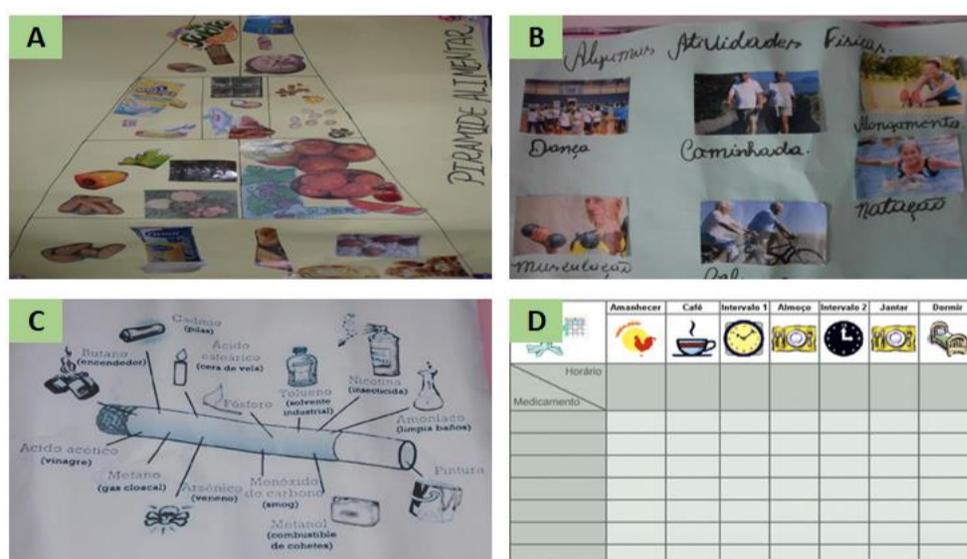
An educational session was held per home visit, totaling, according to the number of elderly, 164 sessions. Each session was divided into five stages (T), according to the topics covered: T1 (eating habits and salt use); T2 (overweight and obesity); T3 (practice of physical activity); T4 (smoking and drinking) and T5 (care when using medication).

It is noteworthy that there was no need to submit the project to the ethics committee on research with human beings, as the educational sessions were only university-based and there was no associated research. Nevertheless, the elderly were questioned about their interest in participating in the activity, obtaining the verbal consent of all.

## RESULTS

It was observed that the majority of the elderly were female, responsible for housework and care for the rest of the family. It was found that part of them faced social problems, such as abandonment and poor housing conditions, among other situations that deserve future investigations.

It is noteworthy that each elderly person received a home visit with an educational session divided into five periods (T1, T2, T3, T4 and T5). It is noteworthy, since the same themes were addressed in each session, that this report stuck to the contents, observations and perceptions of the activity as a whole. The support material that was used during each educational session is shown in figure 1.



**Figure 1:** Support material for educational sessions on cardiovascular health. A (food pyramid); B (examples of physical activities); C (composition of cigarettes and their harm to humans); D (medication control table).

In the T1 of each educational session, the organization of the food pyramid and the benefits and harms of food for the cardiovascular health of the elderly were explained. The pyramid was divided into four levels: 1st level - group of cereals,

tubers and roots; 2nd level - group of vegetables and group of fruits; 3rd level - group of milk and dairy products, meat and eggs and legumes and 4th level - group of oils and fats and sugars and sweets (Figure 1-A).

Elderly people were advised to consume mainly fruits and vegetables, beans and legumes and meat and eggs. The moderate use of foods that were present at the base and top of the pyramid, such as pasta, fats and sugars, was emphasized. It was explained to the elderly with DM that the consumption of fruits rich in carbohydrates, such as grapes and mangoes, should be avoided.

It was pointed out that the consumption of saturated fats is related to the plasma elevation of Low Density Lipoproteins (LDL) and may increase cardiovascular risk and insulin resistance. It has been described that these substances are mainly concentrated in animal fats and that; therefore, the consumption of low-fat meats was indicated.

It was also said that these eating habits would prevent the increase of bad cholesterol (LDL) and the clogging of vessels by lipid plaques, which could result in an acute myocardial infarction. The risks of the hypersodium diet for cardiovascular health and blood pressure dysregulation were also explained. It is noted that some elderly people reported not having the financial means to buy healthy food, which, according to them, would be more expensive.

It was clarified that it would be possible to buy healthy and cheap food, such as fruits, vegetables, legumes and natural juices. Participants were recommended to plant their own vegetable garden and use the products in their daily meals. It was suggested to consume the foods you liked best, as long as they were healthy and did not contribute to future cardiovascular problems.

It was explained that overweight and obesity were serious cardiovascular risk factors. Thus, it was indicated the adequacy of food combined with the practice of regular physical activity. It should be noted that the participants demonstrated to know the harm of overweight and obesity for cardiovascular health.

However, it was noted that the majority of the elderly did not perform regular exercises, despite recognizing their relevance to well-being, health and quality of life. It appears that those who did not practice frequent physical activity reported some locomotor limitation, lack of stimulation or enthusiasm.

Some physical activities, such as dancing, walking, stretching, swimming, weight training and cycling were exemplified, through figure 1-B. It was emphasized, for the elderly with low purchasing power, mainly, walking and stretching, as the performance of these activities does not depend on financial resources. Regular walking and stretching was recommended for at least 150 minutes a week, with the exception of participants who had medical restrictions.

In T4, smoking cessation was addressed, using figure 1-C. It is noted that this image exposed the

harmful substances present in cigarettes, such as: nicotine; methanol; cadmium; carbon monoxide and others. It is noteworthy, during the explanation, that the elderly and their families showed amazement at the amount of harmful additives that make up cigarettes.

It was emphasized that smoking is a harmful practice to the respiratory tract, lungs and cardiovascular system, which can cause problems for smokers and people who inhale smoke. Alcoholism was also discussed in T4, mentioning that alcoholic beverages impair liver function and increase the risk of obesity and stroke.

At T5, it was instructed on the proper use of antihypertensive and/or antidiabetic medication. It was emphasized that taking the medication at the correct time and in a regulated manner contributes to the control of the disease and prevents complications. The importance of the elderly to attend AH and DM consultations in health units was reinforced.

The didactic table (figure 1-D) was provided to the elderly to record the times for taking the medication. In the "medicines" column, filling in the names of the drugs was recommended. The "time" line was instructed to set the time to take the medication or use the picture at the top of the table.

It is pointed out that this material was interesting for the elderly, as it allows associating the pictures with the main meals of the day and their respective intervals. The following associations are perceived in the figure: dawn (sun and a rooster); coffee (cup with coffee); interval one (yellow clock, reminiscent of dawn); lunch (plates and cutlery); interval two (black clock, reminiscent of the dusk period); dinner (plates and cutlery) and sleep (bed).

The elderly were helped to fill in the table, followed by the medical prescription or, in the absence of it, the report of the participant and their family members. Those who were illiterate were asked to stick the medicine packaging on the line corresponding to their name. Thus, packaging was associated with engravings. At the end of each educational session, the importance of controlling cardiovascular risk factors for maintaining the well-being, health and quality of life of the elderly was stressed.

## DISCUSSION

It is believed that one of the reasons why older women participated in the activity is that men, on average, have a shorter life expectancy compared to women.<sup>12</sup> It is understood, moreover, that the elderly males showed disinterest in participating in the activity, which explains this disproportion.

There is a reluctance of men to seek guidance and treatment in health, which explains the low

adherence to educational sessions. In studies, it was mentioned that, in relation to women, male individuals are in second place in the search for health services. It is mainly due to the demand for this type of services for the presence of acute diseases.<sup>12-14</sup>

It was noticed that the elderly women were responsible for domestic activities and family care. It is evaluated that this observation still reflects the patriarchal idea that attributed to the man the role of provider, whose salary should be used to support the family, with the woman being responsible for taking care of her children and carrying out domestic tasks. It is noted, however, that this situation has changed over the years. It was shown, in a study, that the time that women invest in housework dropped from 14 to 11 hours a week.<sup>15,16</sup>

A resistance of the hypertensive and diabetic elderly is pointed out to modify food consumption in favor of the secondary treatment of DM and AH.<sup>17</sup> In the geriatric population, there is a high maintenance of inadequate eating habits, which are below the recommendations of the World Health Organization (WHO) for the consumption of fruits and vegetables.<sup>18</sup>

It was observed, through an experience report on a conversation map in the care of DM, a great lack of knowledge about the type, quantity and quality of food that a person with DM can eat. In addition, it was demonstrated in a survey that cardiovascular diseases had a statistically significant association with nutritional status, corroborating the importance of advising the elderly to adopt a healthy diet, with less fat and sugar content.<sup>19</sup>

It was found in the scientific literature that regular practice of physical activity has beneficial effects on cardiovascular health for both adults and the elderly. Despite this, in a population-based study with 621 elderly people, there was a prevalence of 70.1% of physical inactivity, which points to the need to encourage exercise in this population.<sup>20</sup>

The participants of the sessions were instructed to carry out walks and stretches. It is pointed out that this practice was corroborated in an intervention research, which found that both interventions were effective. However, it was emphasized that walking was more efficient in reducing blood pressure, as it was moderate and required a short period.<sup>21</sup> It is assumed that the benefits of walking can range from preventing overweight and obesity to strengthening the respiratory and locomotor system.

It was noted that the elderly understood that increasing weight and excess body fat contribute to cardiovascular complications. It is considered that this understanding is important because, with the advancing age, there is an increase in the

prevalence of obesity.<sup>22</sup> It was shown, in a research on the trends of risk and protective factors in people with CNCDs, that overweight increased from 45.8% to 51.6% and obesity, from 12.9% to 16, 5% in 2018.<sup>23</sup>

It was found, through the expressions of the elderly, that they were amazed by the substances present in the cigarette. It should be noted that one of these components is nicotine, one of the biggest risk factors for diseases and mortality. Studies have shown that smoking is a negative factor in controlling hypertension and in stopping the use of antihypertensive drugs. However, it was warned that there is no evidence that smoking cessation reduces blood pressure.<sup>24,25</sup>

It is estimated, worldwide, that 10% of all type 2 DM cases can be directly attributed to smoking.<sup>26</sup> It appears that the abandonment of this practice reduces the risk of mortality associated with DM by up to 30%. It has been suggested in studies that smoking in diabetics is related to increased risks for peripheral neuropathy, diabetic foot or kidney failure.<sup>27</sup>

In relation to alcoholism, a significant increase in the intake of alcoholic beverages by the elderly is observed. It is estimated that this practice can cause damage to health, such as cirrhosis, pancreatitis and behavioral changes.<sup>31</sup> In an epidemiological survey, it was stated that about a third of the elderly population starts using alcohol late.<sup>28</sup>

It is pointed out that alcohol intake, depending on individual sensitivity and quantity, may mask symptoms of hypoglycemia, reduce hepatic glucose production and increase the production of ketone bodies.<sup>4</sup> It is recommended that the health professional discuss alcohol consumption with their patients to inform them of the possible weight gain and the risks of hypoglycemia.

A medication schedule control table was delivered and filled out. It was observed, in one study, that the participants who used a similar table had significantly better clinical outcomes than those who did not use. This is believed to happen because many elderly people forget the medication schedule and confuse the drugs, taking the wrong medication. Therefore, it is argued that the table will be useful for the elderly who participated in the educational sessions, since the majority used more than one medication.

It can be said that the educational session and the home visit are useful strategies for carrying out university extension actions to promote cardiovascular health in elderly people with CNCDs. It is considered that the visit made it possible to get to know each elderly person's home and identify problems that interfere with self-care and the maintenance of cardiovascular health. Based on that, the adequacy of the guidelines to the real needs of the participants was obtained.

It was observed that the activity allowed nursing students to exercise health education as an interface of nursing care in home care. It is believed that the support material was crucial for the educational sessions and made them more dynamic and didactic. The need to develop educational strategies on healthy lifestyle is reinforced, as people still maintain ineffective cardiovascular health.

## CONCLUSION

It is concluded that home visits are useful to develop educational sessions on cardiovascular health of hypertensive and/or diabetic elderly. It is recommended, therefore, to adopt this strategy in carrying out other university extension activities with the elderly on topics associated with healthy aging. Greater attention should be directed to men, as they expressed less interest in participating in the activity.

It is believed that home visits do not attract the interest of a significant number of men. It is suggested, therefore, the practice of other strategies, such as the approach in the health unit itself and actions in the squares and community centers. It is emphasized that the medication control table, the food pyramid and the exposure of the harmful effects of smoking proved to be satisfactory and efficient in explaining cardiovascular factors.

It is expected that, after conversations, image demonstrations and explanations, the elderly will have greater motivation and awareness for cardiovascular health care. It is argued that this report contributes to the incentive to university extension, to education in cardiovascular health and to the dissemination of experiences of academics, teachers and researchers in Nursing.

## CONTRIBUTIONS

It is informed that all authors contributed equally in the design of the research project, collection, analysis and discussion of data, as well as in the writing and critical review of the content with intellectual contribution and in the approval of the final version of the study.

## CONFLICT OF INTERESTS

Nothing to declare.

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