





HEALTH EDUCATION FOR FALL PREVENTION IN OLDER ADULTS WITH HYPERTENSION

EDUCAÇÃO EM SAÚDE NA PREVENÇÃO DE QUEDAS PARA IDOSOS COM HIPERTENSÃO

EDUCACIÓN EN SALUD EN LA PREVENCIÓN DE CAÍDAS EN ANCIANOS CON HIPERTENSIÓN

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ABSTRACT

Objective: to report the experience of using educational actions for fall prevention in older adults with arterial hypertension. **Method:** this is an experience report on educational meetings about fall prevention carried out with 36 older adults with arterial hypertension accompanied by primary care in the countryside of Ceará. The adapted game "Do not let grandma fall" was used during the meetings. In addition, folders and posters were made to provide illustrative information. **Results:** it was noticed that the game stimulated the older adults to reflect on inappropriate situations in their home environment that can be adapted to prevent falls. Some older adults had cognitive difficulties when asked to identify the risk factors present in each room of the house, but after the examples, they were able to understand the game situations. With the guidelines, the older adults could understand the relevance of the factors that favor the risk of falls. **Conclusion:** it is concluded that health education is a potential strategy to prevent falls in older adults with arterial hypertension. Therefore, it is important to use playful methodologies such as games and materials that provide guidelines for fall prevention, such as folders.

Descriptors: Aged; Hypertension; Accidental Falls; Risk Factors; Health Education.

RESUMO

Objetivo: relatar a experiência de ações educativas sobre a prevenção de quedas em idosos com hipertensão arterial. **Método:** relato de experiência sobre encontros educativos acerca da prevenção de quedas, realizados para 36 idosos com hipertensão arterial, acompanhados pela atenção primária, no interior cearense. Durante os encontros, utilizou-se do jogo adaptado "Não deixe a vovó cair". Além disso, houve a confecção de pôsteres e cartazes para fornecer as informações de forma mais ilustrativa. **Resultados:** a aplicação do jogo estimulou os idosos a refletirem sobre situações

inadequadas no ambiente domiciliar que podem ser adaptadas para evitar quedas. Alguns idosos apresentaram dificuldades cognitivas, quando solicitados a identificarem os fatores de riscos presentes em cada cômodo da casa, mas, após os exemplos do cotidiano, foram capazes de entender as situações do jogo. Com as orientações, os idosos puderam compreender a relevância dos fatores que favorecem o risco de quedas. **Conclusão:** a educação em saúde é uma potencial estratégia para realização de atividades educativas sobre a prevenção de quedas em idosos com hipertensão arterial. Para isso, torna-se importante a utilização de metodologias lúdicas, como jogos e materiais que proporcionem a fixação das orientações, a exemplo dos pôlderes.


Descritores: Idoso; Hipertensão; Acidente por Quedas; Fatores de Risco; Educação em Saúde.

RESUMEN


Objetivo: relatar la experiencia de acciones educativas sobre prevención de caídas en ancianos con hipertensión arterial. **Método:** relato de experiencia sobre encuentros educativos sobre prevención de caídas, realizados con 36 ancianos con hipertensión arterial, acompañados por atención primaria, en el interior de Ceará. Durante las reuniones se utilizó el juego adaptado “Que no se caiga la abuela”. Además, se realizaron carpetas y carteles para brindar información de una manera más ilustrativa. **Resultados:** la aplicación del juego animó a los ancianos a reflexionar sobre situaciones inapropiadas en el ambiente domiciliario que pueden ser adaptadas para prevenir caídas. Algunos ancianos tenían dificultades cognitivas cuando se les pedía que identificaran los factores de riesgo presentes en cada habitación de la casa, pero, tras los ejemplos cotidianos, lograban comprender las situaciones del juego. Con las orientaciones, los ancianos lograron comprender la relevancia de los factores que favorecen el riesgo de caídas. **Conclusión:** la educación en salud es una estrategia potencial para la realización de actividades educativas sobre la prevención de caídas en ancianos con hipertensión arterial. En consecuencia, es importante utilizar metodologías lúdicas, como juegos y materiales que sirvan de marco de pautas, como carpetas.

Descriptores: Anciano; Hipertensión; Accidentes por Caídas; Factores de Riesgo; Educación en Salud.


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INTRODUCTION

Health education to prevent falls in older adults with arterial hypertension is extremely important due to the growing number of older adults with chronic diseases and the demographic transition in Brazil and the world.¹ The United Nations shows that 18% of the population of Asia, Latin America, the Caribbean, and Oceania will be made up of people over 65 years of age by 2050.² Thus, the challenges to be faced by health systems and services related to the population aging process are growing. Given the above, health education is a potential tool for minimizing the problems arising from the aging process.³

The aging process generates some physiological and pathological changes that increase the incapacity of older adults over the years and can reduce their quality of life.⁴ All the attention of health professionals must be spent on guiding the older adults to reduce the risks related to disabilities, such as falls related to intrinsic and extrinsic factors. Intrinsic factors include age-related physiological changes, disease, and medication use. Environmental and social hazards characterize extrinsic factors. A study highlights risk factors for the increase of falls, such as advanced age, female sex, impaired neuromuscular function, presence of chronic diseases, history of previous falls, polypharmacy, inadequate home environment, functional disability, and postural hypotension.^{4,5}

Falls in the older adult population are common events, especially in the presence of chronic diseases such as arterial hypertension and diabetes mellitus, as there is a regular use of different medications, such as antihypertensive drugs, which can lead to episodes of dizziness and the occurrence of falls.⁶ Studies demonstrate that polypharmacy, the use of 5 or more medications, common among older adults with chronic diseases, increases the risk for falls due to the adverse effects of the medications.⁷

In 2019, the World Health Organization defined chronic non-communicable diseases as the second-highest priority in health, with the need to implement interventions to encourage healthy lifestyles. Healthcare professionals must carry out educational actions aimed at older adults with arterial hypertension at risk for falls.

Research has been carried out to reinforce the prevention of falls in older adults.^{6,9,10} A specific instrument was developed to prevent falls in older adults with arterial hypertension.¹¹ Then, it underwent validation and clinical testing to assess the effectiveness of the intervention in older adults with arterial hypertension.¹² Another study aimed to describe the importance of health education in primary health care for preventing falls in older adults.¹³

Therefore, the importance of the theme is noticeable, given the aging world population and the lack of health education actions as a common practice of health professionals for older adults. There is a need to develop educational health activities to prevent falls in older adults with arterial hypertension guiding them about the risks that increase the occurrence of falls and avoiding secondary consequences. This study was developed with a specific audience of older adults who have arterial hypertension, attributing another risk for the occurrence of falls. In addition, it was developed in a municipality in the countryside of Ceará. There is no knowledge of studies carried out in this location. Thus, the objective of this study was to report the experience of using educational actions for fall prevention in older adults with arterial hypertension.

Actions of this nature are important, as they guide the older adults and can encourage them to change lifestyle habits, including adaptations in their homes, reducing the risk of falls with a consequent reduction in admissions to healthcare services and expenses related to accidents caused by falls. In addition, preventing older adults from falling is extremely important to maintain their quality of life.

OBJECTIVE

To report the experience of using educational actions for fall prevention in a primary healthcare unit in older adults with arterial hypertension.

METHOD

Location and population participating in the educational activity

This is an experience report that describes the experience of nursing students in carrying out educational activities of an extension project on fall prevention with 36 older adults with arterial hypertension. The activities were implemented in a primary healthcare unit in the countryside of Ceará, Brazil, in 2020. This unit was chosen because the participants have greater access to the national arterial hypertension and diabetes mellitus (HyperDia) program, including the target audience (older adults with hypertension). The activities took place at two different times (before and during the pandemic), with 8 meetings.

Moments carried out for the educational activity

Initially, a visit to the primary care unit was conducted to get to know the institution and present the proposal to the coordinator. Due to the Covid-19 pandemic that started in 2020 and the risks of contamination, the activities were carried out following the safety guidelines established by Ordinance No. 1,565 of June 18, 2020, of the Brazilian Ministry of Health.¹⁴

The educational material was then prepared for the implementation of the activity. At first, posters and banners were created with information about the risks of falls and the ability to modify these factors to reduce the chances of accidents occurring. Then, thematic folders were prepared with the help of the Publisher tool, available in Microsoft Office.

Folders related to fall prevention in older adults with hypertension were created, including guidelines on the risks of poorly lit environments, loose rugs, wet floors, inadequate footwear, and inappropriate use of antihypertensive drugs (Figures 1 and 2). The guidelines were adapted to provide a playful learning experience for older adults.



Fall is a devastating event for older adults, but it can be avoided!

Let's know some factors that can lead you to fall and can be avoided or minimized?



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FALL PREVENTION IN OLDER ADULTS WITH ARTERIAL HYPERTENSION



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Figure 1: Front page of the folder "Fall prevention in older adults with arterial hypertension"

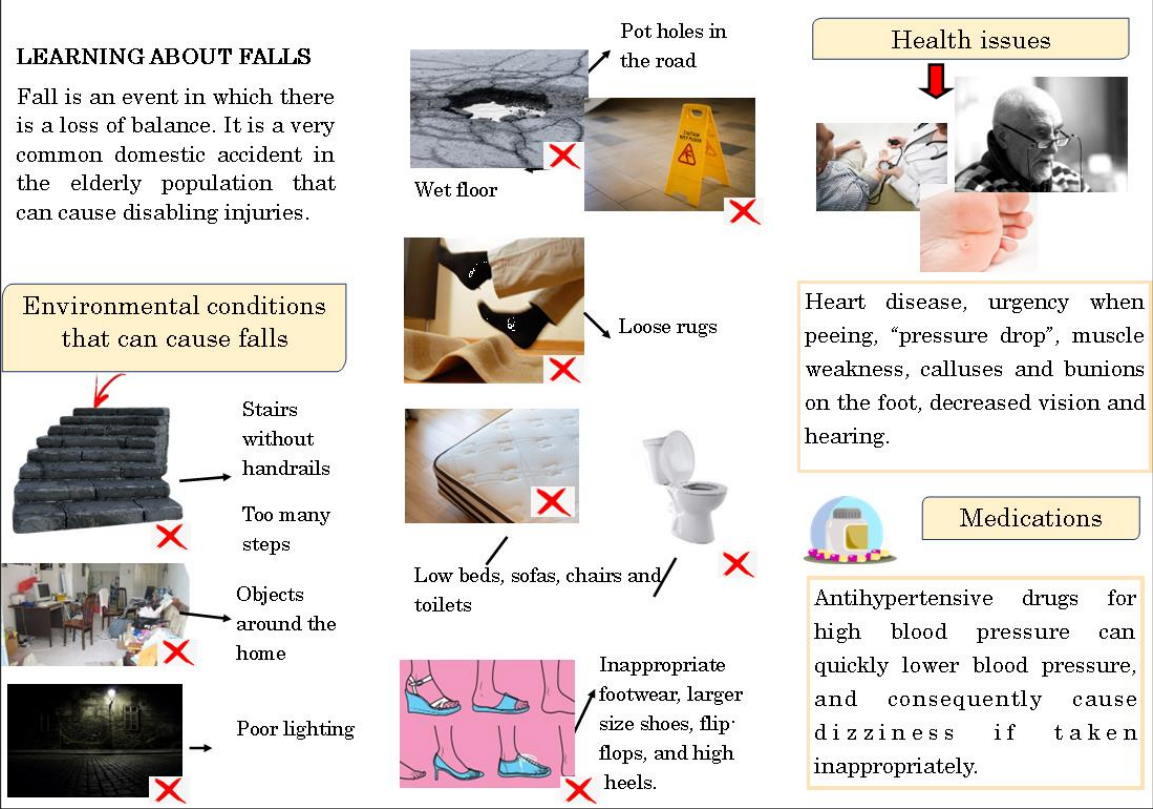


Figure 2: Back page of the folder " Fall prevention in older adults with arterial hypertension"

The electronic game "Do not let grandma fall" was used as complementary material, available in the Google Play app store, developed by Gaz Games. The game was adapted to be used with the older adults at the end of each meeting and consists of identifying potential risks for falls in the rooms of the house, such as the living room, kitchen, bedroom, and bathroom.

Additionally, a banner was created with images of the rooms, and the older adults were asked to identify the risks in each room (Figure 3).

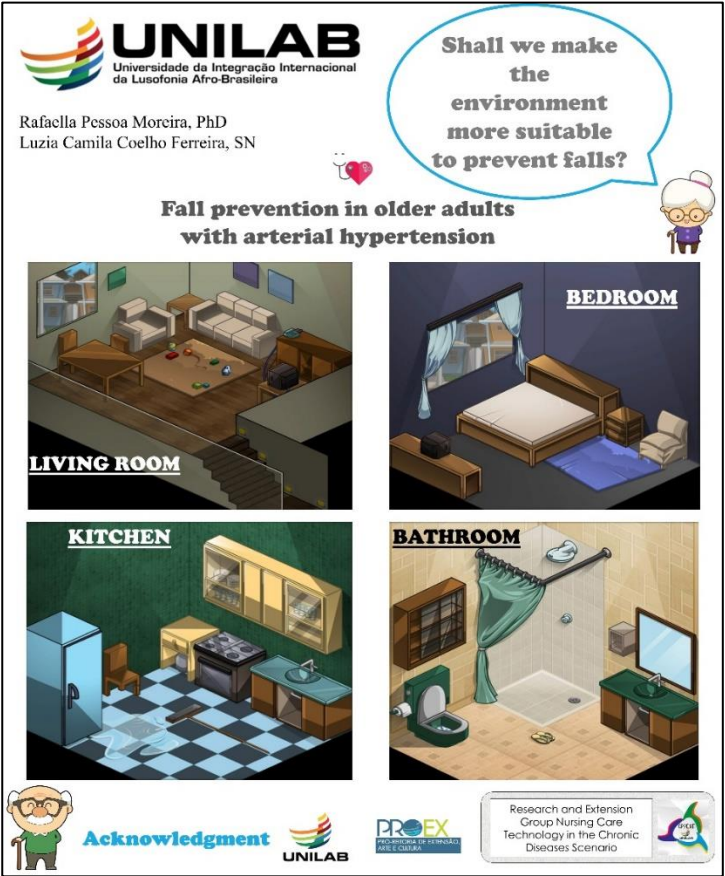


Figure 3: Template of the banner "Fall prevention in the older adults with arterial hypertension"

Also, a box with divisions related to the objects commonly found in each room (living room, kitchen, bedroom, and bathroom) was created (Figure 4).



Figure 4: Material used to support the use of the game.

Eight meetings were divided into two moments: two meetings before the emergence of the Covid-19 pandemic and six individual meetings during the pandemic.

At first, the group meetings took place on days when the participants of the HyperDia program attended the primary healthcare unit, Mondays and Tuesdays, during the morning. Each meeting lasted 1 hour.

In a second moment, which consisted of individual meetings during the pandemic, a new proposal was presented to coordinate the primary healthcare unit with some adaptations. The activities were carried out following all the rules established by the World Health Organization,¹⁴ to ensure the safety of the older adults and the healthcare team. The guidelines were initiated after an explanation of the purpose of the proposal and verbal acceptance by the older adults.

Six meetings were held with individual approaches to the older adults, based on the unit's schedule, as the activities of the HyperDia program were interrupted. Thus, the dates for medical consultations, including cardiology, electrocardiogram (ECG), and neurology appointments, were observed. These dates are the ones with the highest frequency of older adults with hypertension in the healthcare unit, and the appointments are distributed during the week, in the morning, from 8:00 am to 11:00 am. The activities were carried out before or after the appointments scheduled at the unit. It is noteworthy that each orientation lasted, on average, 10 to 15 minutes, applied directly, clearly, and in a playful manner.

Evaluation of the educational intervention in health

At the end of the action, the educational activities were evaluated. The answers were obtained spontaneously or with stimulation with the following questions: "What did you think of the conversation?" and "What did you manage to learn during the conversation?".

Ethical aspects

The extension project emerged from a broader project, approved by the Institutional Review Board of the University for International Integration of the Afro-Brazilian Lusophony, under opinion no. 3,292,474.

RESULTS

During the meetings before the pandemic, the older adults were receptive and willing to participate in the construction of knowledge, showing a willingness to change inappropriate habits that increase the risk for falls. In this first moment, posters with illustrative images, banners, and personalized boxes were used as supporting materials for the use of the game "Do not let grandma fall". A folder with guidelines and strategies to avoid falls was also used during the educational intervention.

The identification of the public of interest supported the creation of the guidelines. Thirty-six older adults, male and female, aged 55-80 years, participated. Of these older adults, 29 were women, and 7 were men. Most had up to four years of study. In addition to this information, there were reports from participants about using 3 to 5 medications to control blood pressure and previous history of falls.

When describing the occurrence of falls, it was observed that some environmental factors existed, such as wet floors, inadequate lighting in the house, use of loose rugs, and inadequate footwear.

From this information, it was possible to guide the older adults through posters and folders about the alternatives to reduce the risks, such as (a) care with the floor: pay more attention to the floor, avoid walking on it when it is wet and keeping the floor dry, (b) inadequate lighting: placing lamps in strategic places such as corridors and stairs, to facilitate movement between rooms in the house or opting for the use of flashlights to move from one room to another, (c) use of loose mats: change loose mats for non-slip mats, as loose mats can lead to tripping and consequently falls, (d) inappropriate shoes: choose closed, and comfortable shoes, without high heels, instead of flip-flops, and (f) observe the effects of medications and if any side effect occurs, seek medical attention to

regulate or change the medication prescription. These guidelines contributed to the older adults' reflection on the habits and conditions in their homes that should be changed or improved.

Some older adults had already interacted with the theme and reported that they liked the enlightening approach. Others reported never having received guidance on the risks of falls; if they had prior knowledge, they could have avoided accidents. Those who had previous knowledge of the subject mentioned the need to learn more about it because they lived alone. They already needed to avoid accidents at home, such as, for example, leaving a chair in the bathroom to help with the bath and in case of an episode of dizziness.

By participating in the game "Do not let grandma fall", the older adults were encouraged to think and act based on what they already knew. Some of them had cognitive difficulties, being necessary to exemplify daily situations such as: "if the floor is wet, what do you think could happen?", "if you need to go to the bathroom during the night and your house is dark, what can happen?". These examples helped the older adults carry out discussions and participate in the game.

In addition, when they received the folder, at the end of the activity, they thanked the team and reported that the material would be useful for them to consult whenever they have questions. They reported that the images would help a lot so that they could understand the guidelines contained in the folder. In this way, the playfulness and clarity of the educational material contributed to a proper understanding by the older adults.

DISCUSSION

The achievement of an effective intervention for fall prevention requires the identification and possible correction of risk factors by older adults, thus promoting the autonomy of this population. To promote this knowledge, it is necessary to recognize fall as a multifactorial event caused by extrinsic and intrinsic factors. Therefore, interventions carried out by health professionals for older adults comprehend the development of strategies to identify and correct the factors that cause falls.¹⁵⁻¹⁶

It is inferred that the positive reception by the older adults for these interventions can be explained by the public's interest in the subject as a result of the desire to prevent falls, a known and feared event, while the high interaction perceived during the educational action may come from curiosity, the incentive to the fellow students, and the playful presentation of the theme.¹⁷⁻¹⁹

The communications during the interventions revealed that most older adults use 3 to 5 medications. Individuals in this age group have a high prevalence of chronic diseases and long-term

pharmacological treatments, as well as greater use of medications and an increase in the occurrence of polypharmacy, which corresponds to a risk factor for falls.²⁰ Concerning risk factors, a higher prevalence of environmental factors was noticed, which can be justified by the more fragile socioeconomic conditions that do not allow the correct adaptation to the environment, as well as behavioral factors and resistance to change habits. Given the above, it is important to carry out educational interventions to prevent falls in older adults, promote the autonomy of these subjects, promote physical health, and improve the ability to recognize the different risk factors for falls.

It is observed that the most everyday risk factors were listed and approached dynamically and openly so that the content was fixed in the best possible way. The more similar the participant's reality, the more interest was aroused, and memory stimulated. As a result, the older adults who already knew this methodology and the subject of fall prevention positively evaluated the fact that they were reviewing, strengthening, and adding more knowledge to their environment, while those who had no contact with the topic also positively evaluated the possibility of access to the debate, emphasizing that they would have liked to have had an earlier approach to the issue of fall prevention.

It was observed that most participants were female. One of the possible reasons for this finding is the lack of actions aimed at the male audience, in addition to the cultural aspects of the Brazilian society, developed through a patriarchal regime interfering with men's perception of their health, in which a considerable part believes that they need to hide any fragility or illness from society, causing men to generally have an immediate tendency to seek the health services only in urgent cases or with a pre-existing medical condition, directly compromising their interaction with primary healthcare²¹.

In this regard, it is worth mentioning the elaboration of strategies that may involve a greater number of male older adults to reduce the lower demand for health services by the public in question. A home visit is suggested to approach these older adults and apply educational guidelines.

There were some limitations regarding the educational activities, including the fact that the activity was restricted to older adults with hypertension, resulting in a small number of participants due to the pandemic. It is believed that the guidelines can also be adapted and used in groups of older adults with other medical conditions.

Concerning professional and academic growth, it was noticed that the educational intervention allowed nursing students to exercise health education as a pillar of nursing care in primary healthcare. The support material was believed to be essential for the educational sessions, making

them more interactive, dynamic, and practical to drive. It is also emphasized the need for developing strategies by professionals and universities to promote an adequate lifestyle, contributing to the effective maintenance of individuals' health.

CONCLUSION

Health education is a potential tool to assist fall prevention activities in older adults with hypertension, with the transfer of important information to increase the older adults' knowledge about fall risk factors. This knowledge contributes to implementing health interventions focused on changing some habits considered inappropriate and minimizing the occurrence of falls in the home environment.

It is noteworthy that the application of the game "Do not let the grandma fall", supported by posters and thematic folders, proved to be adequate for explaining intrinsic and extrinsic risk factors related to falls. We emphasize the need to invest in educational activities promoting older adults' health and preventing fall-related accidents.

It is expected that the guidelines in the educational meetings and the use of the supporting material will help the older adults with hypertension to develop the necessary stimulus for care concerning the prevention of risks associated with accidents due to falls, with an emphasis on extrinsic factors and possible modifications.

CONTRIBUTIONS

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 approval of the final version of the study.

CONFLICTS OF INTEREST

Nothing to declare.

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