ISSN: 2318-8413 DOI: 10.18554/refacs.v9i4.4928 REFACS

Action research and adherence to antihypertensive therapy in the family contexto

Pesquisa-ação e adesão à terapia anti-hipertensiva no contexto familiar

Investigación-acción y adherencia a la terapia antihipertensiva en el contexto familiar

Received: 11/09/2020
Approved: 02/04/2021
Published: 14/10/2021

Gabriela de Sousa Lima[1]
Héryka Laura Calú Alves[2]
Célida Juliana de Oliveira[3]
Rosely Leyliane dos Santos[4]
Emiliana Bezerra Gomes[5]

This is a qualitative study, using action research carried out in the interior of the state of Ceará, Brazil, between September 2018 and October 2019. It aied to identify factors that interfere with adherence to treatment for hypertension and proposing educational strategies in the family context that would contribute to its improvement. The participants were four adult members of the same family, of which two suffered from hypertension and two who did not. Eight home visits were carried out with actions ranging from: needs assessment to health education. The interviews were audio-recorded and some observation data were included in a field diary. Data were interpreted by content analysis. Three thematic units emerged and eight units of meaning: F*actors that hinder antihypertensive treatment (Use of medication as a complicating factor in the treatment*; *Inadequate eating habits*; *Comorbidities in justifying sedentary lifestyle)*; *Knowledge about antihypertensive treatment (Formal and informal knowledge*; and *Assessment of interventions and home visits)* and *Outcomes of educational interventions*. Factors interfering with treatment adherence were deficient knowledge, inappropriate diet, failure to use medication and lack of physical activity. The evaluation after interventions showed improvement in family knowledge about hypertension and complications, decreased sodium consumption and increased adherence to physical activity. Follow-up educational interventions, agreed by the family, promoted reflections and lifestyle changes with a positive impact on adherence to antihypertensive treatment.
Descriptors: Nursing; Hypertension; Treatment adherence and compliance; Family.

Trata-se de um estudo qualitativo, com uso da pesquisa-ação realizada no interior cearense, entre setembro de 2018 a outubro de 2019, com o objetivo de identificar fatores que interferem na adesão ao tratamento da hipertensão arterial e propor estratégias educativas no contexto familiar que contribuiriam para sua melhoria. Participou uma família com duas pessoas com hipertensão e duas sem; todas adultas. Realizou-se oito visitas domiciliares com ações de: levantamento de necessidade, até educação em saúde. As entrevistas foram audiogravadas e alguns dados de observação constaram como diário de campo. Os dados foram interpretados pela análise de conteúdo. Três unidades temáticas e oito unidades de significado emergiram: *Fatores que dificultam o tratamento anti-hipertensivo* (*O uso do medicamento como dificultador no tratamento*; *Hábitos alimentares inadequados*; e, *As comorbidades na justificativa ao sedentarismo*); *Conhecimento sobre o tratamento anti-hipertensivo* (*Saber formal e informal;* e, *Avaliação das intervenções e visitas domiciliares*) e *Resultados das intervenções educativas.* Os fatores interferentes na adesão ao tratamento eram o conhecimento deficiente, alimentação inapropriada, falhas no uso da medicação e a ausência de atividade física. A avaliação após intervenções apontou melhora do conhecimento familiar sobre a hipertensão e complicações, diminuição do consumo sódico e aumento da adesão à atividade física. As intervenções educativas de seguimento, pactuadas com à família, promoveram reflexões e mudanças no estilo de vida de impacto positivo na adesão ao tratamento anti-hipertensivo.
Descritores: Enfermagem; Hipertensão; Cooperação e adesão ao tratamento; Família.

Se trata de un estudio cualitativo, mediante investigación-acción realizado en el interior de Ceará, Brasil, entre septiembre de 2018 y octubre de 2019, con el objetivo de identificar los factores que interfieren en la adherencia al tratamiento de la hipertensión y proponer estrategias educativas en el contexto familiar que contribuyan a su mejora. Participó una familia con dos personas con hipertensión y dos sin ella, todos adultos. Se realizaron ocho visitas domiciliarias con acciones desde evaluación de necesidades hasta educación en salud. Las entrevistas se grabaron en audio y algunos datos de observación se registraron en un diario de campo. Los datos se interpretaron mediante un análisis de contenido. Surgieron tres unidades temáticas y ocho unidades de significado: *Factores que dificultan el tratamiento antihipertensivo (El uso de la medicación como obstaculizador para el tratamiento; Hábitos alimenticios inadecuados;* y *Las comorbilidades en justificación al sedentarismo); Conocimiento sobre el tratamiento antihipertensivo (Conocimiento formal e informal;* y *Evaluación de las intervenciones y visitas domiciliarias)* y *Resultados de las intervenciones educativas.* Los factores que interfieren en la adherencia al tratamiento fueron los conocimientos deficientes, la dieta inadecuada, los fallos en el uso de la medicación y la ausencia de actividad física. La evaluación tras las intervenciones mostró una mejora de los conocimientos de las familias sobre la hipertensión y sus complicaciones, una disminución del consumo de sodio y un aumento de la adherencia a la actividad física. Las intervenciones educativas de seguimiento, acordadas con la familia, promovieron reflexiones y cambios en el estilo de vida con un impacto positivo en la adherencia al tratamiento antihipertensivo.
Descriptores: Enfermería; Hipertensión; Cumplimiento y adherencia al tratamiento; Familia.

1. Nurse. Master's Student at the Postgraduate Program in Nursing at the Regional University of Cariri (PPGE-URCA), Crato, CE, Brazil. ORCID: 0000-0003-0598-3395 E-mail: gabrieladesl@hotmail.com
2. Nurse. Master's student at PPGE-URCA, Crato, Ceará, Brazil. ORCID: 0000-0002-1671-162X E-mail: herykalaura_@hotmail.com
3. Nurse. Specialist in Clinical Nursing. Specialist in Health Management. Master in Clinical Health Care. PhD in Nursing. Adjunct Professor at PPGE-URCA, Crato, CE, Brazil. ORCID: 0000-0002-8900-6833 E-mail: celida.oliveira@urca.br
4. Nurse. Specialist in Assistance and Management in Family Health. Master in Nursing. PhD student in Nursing at the Universidade Federal do Ceará. Professor at URCA, Crato, CE, Brazil. ORCID: 0000-0002-3908-8834 E-mail: rosely.santos@urca.br
5. Nurse. Specialist in Public Health. Master and PhD in Clinical Health Care. Post-Doctorate in Nursing. Adjunct Professor at PPGE-URCA, Crato, CE, Brazil. ORCID: 0000-0002-7135-512X E-mail: emiliana.gomes@urca.br

INTRODUCTION

Chronic Non-Communicable Diseases (CNCDs) are a relevan cause of mortality in the world, in addition to affecting the quality of life of thousands of people due to complications and disabilities resulting from them, causing personal and social damage to families and increasing inequities and poverty[1].

Among the CNCDs, cardiovascular diseases (CVD) have a high prevalence in Brazil, especially hypertension[2], a disease that, in the state of Ceará, had an increase in the mortality rate from 8.0% to 20.3% per 100,000 inhabitants in the period from 1998 to 2018[3]. CVD increases spending on health systems in low and middle-income countries by 20%[4].

Adherence to anti-hypertensive treatment is a determining factor in controlling blood pressure, preventing damage and cardiovascular events with or without damage and is necessarily linked to conditions of self-care and access to multidisciplinary health care[5]. Nurses are able to promote knowledge about the treatment, complications and the adoption of a healthy lifestyle (HL) to people with hypertension for greater therapeutic adherence and improvement in self-care[6].

In primary health care (PHC), health education is an important tool in the adoption of sanitary measures and popular participation, therefore, it does not dispense with the use of active and participatory methodologies that reach different audiences in a collective, continuous and attractive perspective, considering the prior individual, family and community knowledge in an inclusive and culturally contextualized way[7,8].

The home emerges as a culturally possible and fertile environment for health education workshops; through home visits, the bond between professional, researcher, family and community is strengthened and provides a space for exchanging experiences and mutual learning[9], increasing the chances of adherence to treatment[10].

The need to work on the theme comes from the gap in monitoring the family of patients diagnosed with hypertension, using interventions and educational actions to assist in adherence to antihypertensive treatment, as studies[11-14] show that family involvement is essential for improving the adherence of people with hypertension, in addition to promoting family autonomy in the face of chronic health conditions. Thus, this study aimed to identify the factors that interfere with adherence to hypertension treatment and propose educational strategies in the family context that would contribute to its improvement.

METHODS

It is a qualitative research with a theoretical-methodological framework of action research, valuable for allowing the interaction, autonomy and cooperation of the study participants in the improvement of realities. The following phases of the method that occurred simultaneously were understood: 1) exploratory phase – shared definition of the research theme between researcher and participants; 2) planning phase – temporal and instrumental follow-up agreement; 3) action phase – implementation of actions with the aid of theory, seminars and data collection; 4) data assessment and dissemination phase[15].

The study was carried out in the home setting of a family, from a peripheral community, assisted by a Basic Family Health Unit (BFHU), in a municipality in the interior of the state of Ceará. Participants selected for the study met the following inclusion criteria: being a family with one or more adult or elderly members diagnosed with hypertension and classified as vulnerable by the Family Risk Scale[16].

In the exploratory phase, the BFHU was sought and, with the help of the nurse and community health agent (CHA), a compilation of vulnerable families was made that contained people diagnosed with hypertension, undergoing treatment and monitoring, listing five families. Next, previously scheduled home visits were carried out in the company of the CHA,

with a view to confirming family vulnerability by applying the Family Risk Scale[16], and explaining about the study.

The family with the highest score stratum – "nine or more points" – classified in R3 (maximum risk) of vulnerability, was selected and invited to participate and be monitored. This was followed by the initial planning phase of follow-up actions over time, in person and at a distance, through the use of communicative technologies for family access.

The planning phase took place in association with the action phase, with theoretical and methodological preparation of the researchers to carry out the interventions, based on the demands shared in the seminars and discussion with the family.

The action phase continued with the monitoring of the family and data collection through pre-scheduled home visits, in the living room environment, with the participants arranged in a circular fashion, to facilitate the group's visual contact, without delimitation duration of the initial encounters, leaving family members free to express their feelings. There was support from a second researcher in conducting discussions and promoting seminars, which sought to list and develop ways to solve problems related to adherence.

The feedback, evaluations and determination of new themes and their approach took place along data collection and all these points were worked on in the intervention workshops in discussion groups, carried out from the second home visit (HV). Between one visit and another, the off-site follow-up took place through communication technologies, social networking applications such as Facebook®, Instagram® and WhatsApp® and phone calls, which provided closeness, trust and bonding.

Data collection took place from September 2018 to October 2019, with eight face-to-face meetings and remote monitoring. The data collection techniques were collective interviews, recorded with the family's prior authorization through a mobile phone recorder and notes in a field diary that also included the contents from contacts through calls and applications or social networks.

Data analysis was performed in parallel with data collection and anchored in feedback. The technique used was the content analysis of the *corpus* of recordings and field diary, by aggregating the units of meaning and context in the determination of categories, in order to obtain a concept that encompassed everything that was said about a given subject[17]. Participants were identified by the letter "F" as a reference to the word "family" followed by sequential cardinal numbers (1, 2, 3, 4).

This study was approved by the Research Ethics Committee, under No. 2.895.662.

RESULTS

The participating family consisted of four people: an 83-year-old grandmother, elderly, widow, diagnosed with hypertension, retired and illiterate; a 52-year-old married mother, diagnosed with arterial hypertension and diabetes mellitus, worked as a housewife and had elementary educational level; a 31-year-old single son, with no diagnosed morbidities but with a history of hypertensive crisis, with a complete higher education degree and a 23-year-old daughter, single, with a high school educationa level and both children had paid informal employment. The description of the phases and actions developed is described in Chart 1.

Chart 1. Description of the action-research carried out at home. Crato – CE, 2019.

VD	Activities developed	Materials used	Applicants	Proposals chosen
1st	Application of the Family Risk Scale; Family selection.	Paper Pen	Main researcher ACS	Explanations about the study and invitation to participate; Scheduling the second visit.
2nd	Discussion on the central theme "hypertensive therapeutic adherence"; Assessment of family knowledge about arterial hypertension; Agreement of pedagogical workshops - Themes listed: Hypertension and its complications; Healthy eating; Use of medicinal plants in the treatment of hypertension; Selection of materials and workshop dynamics	Digital recorder Paper Pen	Main researcher Assistant Researcher Relatives	Planning of pedagogical workshops by the researchers, based on hypertension guidelines and scientific articles. Scheduling the day and time of the next visit.
3th	Intervention: Hypertension and its complications.	Digital recorder In-house drawings on posters Videos available for free on the YouTube® platform	Main researcher Assistant Researcher Relatives	The family puts into practice what they learned during the intervention; Scheduling the next visit.
4th	Intervention: Healthy eating. Intervention: Use of medicinal plants to treat hypertension.	Digital recorder Ingredients for a healthy dessert. Ingredients for herbal salt. Poster containing images of unhealthy foods (with respective amounts of salt and/or sugar) consumed by the family Colony plant (*Alpinia speciosa*) popularly used to treat high blood pressure.	Main researcher Assistant Researcher Relatives	The family puts into action what tey learned during the intervention; Scheduling the next visit.
5th	Assessment of knowledge resulting from interventions. Evaluation of interventions carried out through pedagogical workshops.	Digital recorder Paper Pen	Main researcher Assistant Researcher	The family put into action what they agreed to during the visits: use of low-calorie and low-sodium foods and reduction in the use of sugars; performing physical activities and using medicinal plants for the use of teas in association with prescribed drugs.
6th	Evaluation of the strategies agreed on in the previous visit; Survey of needs that resulted in the request for another intervention on food.	Recorder Paper Pen	Main researcher Relatives	Scheduling the next visit; Planning the pedagogical workshop by the researchers, based on guidelines and scientific evidence.
7th	Application of the requested intervention: Reinforcement on the theme "Healthy eating".	Recorder Samples of healthy and unhealthy foods present in the family's diet and two tables with the words: "healthy" and "unhealthy".	Main researcher Assistant Researcher Relatives	The family puts into action what they decided during the visit (use of low-calorie and low-sodium foods and reduction in the use of sugars). Scheduling the next visit.
8th	Assessment of knowledge and actions incorporated by family members in their daily lives. Assessment of interventions performed.	Recorder Paper Pen	Main researcher Assistant Researcher Relatives	-

The analysis of the corpus generated in the home visits allowed the survey of three thematic units and eight units of meaning: *Factors that hinder antihypertensive treatment* (*Use of medication as a complicating factor in the treatment*; *Inadequate eating habits*; and *Comorbidities in justifying sedentary lifestyle*); *Knowledge about antihypertensive treatment* (*Formal and informal knowledge*; and *Assessment of interventions and home visits*) and *Outcomes*

of educational interventions (*Use of low-sodium and low-calorie food*; *Outcomes of educational interventions*; and *Carrying out physical activities/exercises*).

Factors that hinder antihypertensive treatment

It refers to the factors identified in the statements of family members about what makes it difficult to carry out antihypertensive treatment. The family believed that hypertension was a disease treated only with antihypertensive drugs and was unaware of the main complications resulting from non-adherence to treatment. Family members who did not have a diagnosis of the disease were unaware of the genetic risk of developing it.

- Use of medication as a complicating factor in the treatment

When asked about how the treatment of hypertension was carried out, one of the participants with this diagnosis immediately mentioned the antihypertensive drug as an obstacle in the treatment, due to the need for it to be taken at the right time, prescribed a doctor, which was identified before and after the application of interventions, especially with regard to forgetting the time to take the drug, evident in the speeches:

[...]*Take the medicine properly, at the right time! Something I don't do.* (F2 in the first HV)
Thy do not take the medicine on time. (F2 in the fifth HV)

- Inadequate eating habits

One of the most mentioned factors during the home visits was the family's eating habit of consuming foods with too much salt, fat and sugar, identified as the main difficulty compared to other difficulties. Half of the participants knew the risks caused by inadequate eating habits and, even though they were aware, they still consumed these foods voluntarily. A lifestyle that makes the treatment of hypertension difficult due to poor adherence:

Physical activity allows you to do it, but the diet is the worse! [...] (F3 in the fourth HV)
You know you can't eat too much fat, but you go out and eat. [...] *That's why I say it's awareness, you eat it, but you are aware of the consequence!* (F4 in fourth HV)
You live a sedentary life and eat everything that comes to you, isn't it? It does make it difficult! Eat too much salt, open your mouth and eat everything you shouldn't! (F2 in the fourth HV)

- Comorbidities in justifying sedentary lifestyle

Another recurrent factor in the participants' statements was the lack of activity/physical exercise and its consequences for health. Although the family was aware of the professional guidance on the importance of physical activity and the need to have an active life, when asked about the reasons for not practicing physical activities/exercises, the reasons were physical complaints, such as pain in the lower limbs.

[...] *they* (health professionals) *always recommend physical activity, right?* [...] (F2 in the second HV)
I'm not doing it now because I'm supposed to walk. I've tried to do it many times but it hurts! I can't walk for two, three days! Then I have to do hydrogymnastics, I was doing it, then I stopped because there (at work) *it's under construction.* [...] *I think it's great to walk, but I'm not in the right condition!* (F2 in the second HV)
The legs are hurting [...] *it's because I have rheumatic pain!* (F1 in the second HV)

None of the participants had an active life, but one participant had already tried to perform physical exercise, without success due to pain, pointing out the need for professional follow-up to perform exercises adapted to their physical conditions, in order to obtain positive results in the treatment. There was sadness in the tone of voice and facial expressions of the participants declaring that they were not healthy enough to perform physical activities.

After the interventions, when asked about the obstacles to the treatment, there was a need for the family to explore the themes “healthy eating” and “activity/physical exercise”, certainly due to the persistence of the same inadequate habits identified in the first and second HV.

Knowledge about antihypertensive treatment

As for prior knowledge related to hypertension, family members expressed a limited view of the disease.

- Formal and informal knowledge

Informal knowledge, acquired through life experiences and reports from others, was identified. The answers were limited in pointing out the elevation of arterial levels as a cause

of possible heart problems, without further relationship to other complications and development of disabilities or even death.

I just know that high blood pressure is a very dangerous disease, right? Even attacks the heart, the person can have a heart problem. (F2 in the second HV)

Blood pressure that goes up, right? (F3 in the second HV)

After the application of the pedagogical workshops, the family was asked again about the definition of hypertension. It was observed in the answers the formal knowledge, coming from the knowledge derived from the carried out guidelines. The answers were comprehensive, with scientifically based information, as in the following statements in which the participant addresses the chronicity of the disease, that there is no cure but control, including technical terms, "*increased pressure*" and parts about the mechanism of action of the disease, risk factors and complications:

There is no cure, right? (F1 in the fifth HV)

Hypertension is a disease caused by poor diet, stress, excessive salt consumption, overweight, there is the issue of fat in the arteries, which makes the arteries thinner, which can cause a heart attack, a stroke, [...] *kidney diseases that no one thinks the cause can be linked.* (F3 in the fifth HV)

It's high blood pressure! (F4 in fifth HV)

After each evaluative visit, a time was set for family members to put into practice the agreed proposals to improve adherence to hypertension treatment.

Although family members were aware of their inadequate eating habits and lack of exercise/physical activity, they knew that this was not the best choice, and even though they were unable to fully implement the agreed-upon actions, they sought to reduce salt consumption and returned to performing activities and/or physical exercises after the interventions, improving adherence. The popular use of teas to reduce blood pressure was also mentioned, but this time indicated as treatment aids, without being able to control blood pressure by themselves.

I eat food with salt, but not salty food! Only if the food is salty, I don't eat it, I don't like salty food... (F1 in the eighth HV)

[...] *Then the pressure went up! Then the doctor said "That food, everything increases!" I am aware!"* (F2 in the eighth HV)

I began again! I'm doing it (physical activity)*!* (F2 in the seventh HV)

It's no use eating something salty and drinking tea, right? Tea helps it, but... unfortunately it's not enough. (F2 in the seventh HV)

- Assessment of interventions and home visits

As for the assistance provided by health professionals, before the interventions, the focus of the responses was on guidelines about the disease, medical consultation and guidelines from the community health agent (CHA). After the interventions, the answers were more focused on the prevention of risk factors, complications and functioning mechanisms.

When asked about follow-up with home visits, one of the participants (F2) suggested that these interventions could also be applied to families that are not monitored by a BFHU or health professional, highlighting the link with the CHA:

It's not me wanting to be noble, but there are people who are still really unaware people about things, it's because, as I told you, the CHA talks to us a lot, there are people who don't have any guidance. (F2 in the fifth HV)

When evaluating interventions, the responses of family members were positive, but they made it clear that the guidelines were not yet fully applied, which was planned during the action research, however, there was a change in habits and incorporation of knowledge with effects on therapeutic adherence antihypertensive:

I thought it was good! Excellent! You know? (On food) *Even though I don't follow it a hundred percent, but it got better, I now know things!* (F2 in the fifth HV)

Outcomes of educational interventions

Three aspects are important: use of low-sodium and low-calorie food; use of medicinal plants in the treatment of hypertension; and performing physical activities/exercises.

- Use of low-sodium and low-calorie food

Regarding the proposals for ingestion of a low-sodium and low-calorie diet listed by the researcher and family, in previous visits, the researcher questioned the persistence of a main obstacle to adherence to treatment for hypertension. As expressed in speech, food remains this complicating factor.

The participant (F2) insisted on eating as a complicating factor, however, in that same meeting, the risks of lifestyle habits with the ingestion of unhealthy foods were reinforced:

Yes! The food! (F2 in the seventh HV)

I got better! After that day you came here I got better, I got better! It was the salt, because it was just the salt. (F2 in the eighth HV)

The habit of consuming foods with high sodium content had an improvement, as they reduced salt consumption in their meals. However, family members still identified their diet as inadequate and claimed to be aware that they were not making the right choice, but for an unknown reason, possibly cultural issues, they were unable to fully put into practice:

No, but sometimes I'm the one who does it wrong, I think like "Oh, I'm hungry!" Then buy some sushi! (F3 in the eighth HV)

- Use of medicinal plants in the treatment of hypertension

The use of teas in lowering blood pressure is again pointed out. And, at this point, there was awareness among the participants in the review of this habit:

Tea helps it, but... unfortunately it's not enough. I had stopped eating bread and then started eating it again... (F2 in the seventh HV)

- Carrying out physical activities/exercises

This was the best contemplated part in relation to the other practices, as pointed out in the following speech:

I began again! I'm doing it! (F2 in the seventh HV)

DISCUSSION

During the monitoring of the family, it was possible to promote reflection and change of behaviors with direct effects on adherence to antihypertensive treatment, among its members with hypertension supported by healthier behaviors with removal of modifiable risk factors among those who did not have the diagnosis, strengthening care in the family context. As the family is a care unit and an interaction system among its members. It is up to health professionals to develop a care plan taking into account the vulnerability, family structure and culture, as having someone with CNCD affects all members of this nucleus[18].

The studied family had high vulnerability, such as: arterial hypertension, illiteracy, elderly over 70 years old and diabetes mellitus. These factors open possibilities to order and apply actions according to the real characteristics and health needs of families[19].

These actions, when applied to elderly people with hypertension, should consider their educational level and family support[20], which positively contributes to the adherence to treatment of people with hypertension[21].

Practices can be improved after carrying out personalized actions carried out through home visits, characterized as an instrument of active search, identification of vulnerability, local diagnosis and planning of strategies based on needs[22] identified when entering the home and building a bond, perceiving intimacies, feelings, weaknesses and potential in the family nucleus.

Bonding was built through welcoming and listening, with the help of communication technologies, such as phone calls and the use of social networks to facilitate access, approximation and family monitoring, especially in the time interval between visits and interventions, that enabled affection and trust.

Communication technologies were positively perceived from the perspective of patients assisted by a Telemedicine Program in Cardiology in the state of Pernambuco, who claimed to obtain a quick response from health professionals in a practical and easy way[23]. Health

monitoring through the use of WhatsApp® stands out, as it is an open, immediate and accessible means of communication[24].

The more frequent health education interventions and the more illustrated and simple educational material, the better the accessibility and understanding by low-literate or illiterate participants and the greater the contribution to adherence to non-pharmacological treatment of people with hypertension[25].

The use of pedagogical workshops as an intervention method provided the active participation of individuals and allowed for critical reflection on the themes addressed, allowing the adoption of a healthy lifestyle not only for people with hypertension, but for the whole family[26].

As for the use of educational materials, in a research carried out with 145 elderly people diagnosed with hypertension in two BFHU, the use of educational resources that suited their level of education was suggested, as low educational level is a barrier to adherence to treatment. hypertension[8]. This is also valid for the use of digital audiovisual resources, popularized in Brazil[27].

The use of different teaching materials and active methodologies, the exhibition of free videos available on the YouTube® video platform, production of posters and drawings, demonstration of recipes with simple ingredients accessible to the family, proved, in practice, to be efficient means of understanding on the themes addressed among all family members, regardless of education level, providing improvements in therapeutic adherence during home visits.

A survey showed the positive impact of a home visiting program conducted by nurses for the self-management of hypertension among elderly, vulnerable Koreans and residents of poor communities, stating that this intervention can improve adherence to drug treatment and adoption of health habits favorable to healthy lifestyle reducing the hindering factors[28].

The main factors hindering therapeutic adherence that emerged from family monitoring were the time of taking medication, hypercaloric and hypersodic diets, and sedentary lifestyle.

Appointed as a complicating factor in therapeutic adherence by the monitored family, the time of taking the medication is often associated with forgetting the prescribed time. Failure to take the drug at the prescribed time increases the risk of raising blood pressure values, making it essential to have the support of family members to assist in its correct use[13].

In an investigation with 1029 adherent and non-adherent elderly, the variables of adherence and non-adherence to antihypertensive drug treatment were compared, pointing out as a facilitator the family involvement in the treatment, for emotional and logistical support for changes in lifestyle and, as obstacles, the lack of knowledge about hypertension and changes in eating habits and physical activity[13].

Non-adherence to physical activities added to unhealthy habits, such as a diet rich in sodium and saturated fats, harms health and directly influences the decrease in quality of life[29].

In the evaluation phase of this study, it was possible to observe the return of family members with hypertension to the practice of physical activities, however, their diet was not improved. This point was also observed in a study that described the clinical-epidemiological profile and adherence to treatment of elderly people with hypertension who did not adhere to a healthy diet, in which cultural factors were influenced, directly impacting the increase in blood pressure levels[8].

After the interventions, the family's knowledge about hypertension and the opinion about the interventions performed were positive. This result was corroborated by another action research, in which participants positively evaluated the knowledge acquired, home visits and applied interventions, with emphasis on the exchange of experiences, the bond developed between participants and researchers and mutual learning[9].

This mutual learning is effective when health professionals know the difficulties and characteristics of the assisted population, as well as the support network of these people,

especially the family, enabling the monitoring with equity of vulnerable people who need support that matches their preferences and instances[30].

The suggestion made by the family about follow-up to families who do not have guidelines or links with health professionals or enrollment in BFHU was seen as positive and presupposes the lack of access to health services, especially in vulnerable communities.

CONCLUSION

The interventions promoted reflection and change and review of practices, with direct effects on adherence to antihypertensive treatment, partially (healthy eating) and total (taking medication and practice of activity/physical exercise) among those with hypertension and withdrawal from risk factors among the others.

The family demonstrated greater knowledge about hypertension, its treatment and possible complications in the evaluation after the educational interventions, strengthening their autonomy for mutual and individualized care in the prevention and control of hypertension.

The research had limitations regarding the number of participants, as well as the unavailability of a multidisciplinary team and the lack of intersectoral articulation to monitor the family. However, the development of the study in this family context allowed us to identify how factors interfere with adherence to antihypertensive treatment: time for taking medication, inadequate eating habits and sedentary lifestyle. This made it possible to intervene in a participatory way based on the agreement of educational strategies such as: conversation circles, workshops, discussions and agreements between the family and the researchers.

This study brings relevant contributions to health practice, such as the importance of creating a bond between professionals and users and promoting family participation in antihypertensive treatment, generating improvements in the adherence of users with hypertension and promoting health promotion and prevention actions. cardiovascular disease, in addition to a look at families in vulnerable populations.

REFERENCES

1. Ministério da Saúde (Brasil), Secretaria de Vigilância em Saúde, Departamento de Análise de Situação de Saúde. Plano de ações estratégicas para o enfrentamento das Doenças Crônicas Não Transmissíveis (DCNT) no Brasil 2011-2022 [Internet]. Brasília, DF: Ministério da Saúde; 2011 [cited in 20 May 2018]. 160p. (Série B. Textos Básicos de Saúde). Available from: https://portaldeboaspraticas.iff.fiocruz.br/wp-content/uploads/2020/09/plano_acoes_enfrent_dcnt_2011.pdf

2. Malachias MVB, Souza WKSB, Plavnik FL, Rodrigues CIS, Brandão AA, Neves MFT, et al. 7ª Diretriz Brasileira de Hipertensão Arterial. Arq Bras Cardiol. [Internet]. 2016 [cited in 25 Mar 2018]; 107(3):1-104. Available from: http://www.scielo.br/pdf/abc/v107n3s3/0066-782X-abc-107-03-s3-0067.pdf. DOI: 10.5935/abc.20160151I

3. Secretaria de Saúde do Estado do Ceará, Coordenadoria de Vigilância em Saúde, Núcleo de Vigilância Epidemiológica. Boletim epidemiológico Doenças Crônicas Não Transmissíveis [Internet]. Fortaleza: Secretaria de Saúde do Estado do Ceará; 2019 [cited in 26 May 2020]. 11p. Available from: https://www.saude.ce.gov.br/wp-content/uploads/sites/9/2018/06/boletim_epidemiologico_DCNT_22_novembro_2019.pdf

4. World Health Organization. Noncommunicable Diseases (NCD) Country Profiles. Geneva: World Health Organization; 2018 [cited in 20 May 2018]. 223p. Available from: https://apps.who.int/iris/bitstream/handle/10665/274512/9789241514620-eng.pdf?sequence=1&isAllowed=y

5. Lima DBS, Moreira TMM, Borges JWP, Rodrigues MTP. Associação entre adesão ao tratamento e tipos de complicações cardiovasculares em pessoas com hipertensão arterial.

Texto & Contexto Enferm. [Internet]. 2016 [cited in 20 Mar 2018]; 25(3):e0560015. Available from: https://www.scielo.br/j/tce/a/JDdKJcsyQwqP6Hdmf3CYdNr/?lang=pt&format=pdf. DOI: https://doi.org/10.1590/0104-07072016000560015

6. Costa YF, Araújo OC, Almeida LBM, Viegas SMF. O papel educativo do enfermeiro na adesão ao tratamento da hipertensão arterial sistêmica: revisão integrativa da literatura. Mundo Saúde [Internet]. 2014 [cited in 08 Apr 2018]; 38(4):473-81. Available from: http://www.saocamilo-sp.br/pdf/mundo_saude/155566/A12.pdf. DOI: 10.15343/0104-7809.20143804473481

7. Dias EG, Almeida FG, Caires HLD, Santos TAS, Jorge SA, Mishima SM. Avaliação de uma estratégia saúde da família quanto à promoção de adesão ao tratamento e o controle da hipertensão sob a ótica do idoso. J Health Sci Inst. 2016 [cited in 30 Mar 2018]; 34(2):88-92. Available from: https://www.unip.br/presencial/comunicacao/publicacoes/ics/edicoes/2016/02_abr-jun/V34_n2_2016_p88a92.pdf

8. Machado ALG, Guedes IH, Costa KM, Borges FM, Silva AZ, Vieira NFC. Perfil clínico-epidemiológico e adesão ao tratamento de idosos com hipertensão. Rev Enferm UFPE on line [Internet]. 2017 [cited in 29 Nov 2018]; 12(11):4906-12. Available from: http://www.repositorio.ufc.br/bitstream/riufc/30153/1/2017_art_algmachado.pdf

9. Nóbrega VCF, Melo RHV, Diniz ALTM, Vilar RLA. As redes sociais de apoio para o aleitamento materno: uma pesquisa-ação. Saúde Debate [Internet]. 2019 [cited in 26 Jan 2020]; 43(121):429-40. Available from: https://www.scielo.br/j/sdeb/a/DG9yT5KhWRNC3SY4ty7XMkC/?lang=pt. DOI: https://doi.org/10.1590/0103-1104201912111

10. Pereira IMO. Proposta de intervenção interdisciplinar para a adesão dos pacientes ao tratamento da hipertensão arterial sistêmica. Liph Science [Internet]. 2015 [cited in 21 May 2018]; 2(2):21-40. Available from: https://crfmg.org.br/comunicacao/proposta%20de%20intervencao.pdf

11. Silva SA, Fracolli LA. Avaliação da assistência à criança na estratégia de saúde da família. Rev Bras Enferm. [Internet]. 2016 [cited in 21 May 2018]; 69(1):54-61. DOI: http://dx.doi.org/10.1590/0034-7167.2016690107i

12. Dias EG, Souza ELS, Mishima SM. Influência da enfermagem na adesão do idoso ao tratamento da hipertensão. Rev Eletr Gest Saúde [Internet]. 2016 [cited in 08 Apr 2018]; 7(3):1156-72. Available from: https://periodicos.unb.br/index.php/rgs/article/view/3625/3304

13. Tavares DMS, Guimarães MO, Ferreira PCS, Dias FA, Martins NPF, Rodrigues LR. Qualidade de vida e adesão ao tratamento farmacológico entre idosos hipertensos. Rev Bras Enferm. [Internet]. 2016 [cited in 26 Nov 2018]; 69(1):134-41. DOI: https://doi.org/10.1590/0034-7167.2016690118i

14. Silva CMS, Silva DAN, Maia LFS. Atuação do enfermeiro na estratégia saúde da família: com foco em pacientes hipertensos. REMECS [Internet]. 2017 [cited in 21 May 2018]; 2(3):7-17. Available from: https://revistaremecs.com.br/index.php/remecs/article/view/14/pdf_1

15. Thiollent M. Metodologia da pesquisa-ação. 18ed. São Paulo: Cortez; 2011. 136p.

16. Coelho FL, Savassi L. Aplicação de escala de risco familiar como instrumento de priorização das visitas domiciliares. Rev Bras Med Fam Comun. [Internet]. 2004 [cited in 16 May 2018]; 1(2):19-26. Available from: https://rbmfc.org.br/rbmfc/article/view/104/pdf

17. Minayo MCS, Deslandes SF, Gomes R. Pesquisa social: teoria, método e criatividade. Petrópolis, RJ: Editora Vozes; 2016. 96p.

18. Silva L, Galera SAF, Moreno V. Encontrando-se em casa: uma proposta de atendimento domiciliar para famílias de idosos dependentes. Acta Paul. Enferm. [Internet]. 2007 [cited in 12 Apr 2020]; 20(4):397-403. Available from:

https://www.scielo.br/j/ape/a/h7RQ8Q5BDZtjc3D3fmVTYNd/abstract/?lang=pt.
DOI: https://doi.org/10.1590/S0103-21002007000400002
19. Rego AS, Oliveira RG, Macerau WMO, Molena-Fernandes CA, Mathias TAF, Radovanovic CAT. Estratificação de risco familiar no contexto da estratégia de saúde da família. Rev Enferm UFPE on line [Internet]. 2016 [cited in 27 Nov 2018]; 10(3):977-84. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/viewFile/11048/12457. DOI: 10.5205/reuol.8702-76273-4-SM.1003201605
20. Lee E, Park E. Self-care behavior and related factors in older patients with uncontrolled hypertension. Contemp Nurse [Internet]. 2017 [cited in 13 Apr 2020]; 53(6):607-21. Available from:
https://www.tandfonline.com/doi/abs/10.1080/10376178.2017.1368401?journalCode=rcnj 20. DOI: https://doi.org/10.1080/10376178.2017.1368401
21. Bahari G, K Scafide, J Krall, RK Mallinson, AA Weinstein. Mediating role of self-efficacy in the relationship between family social support and hypertension self-care behaviours: a cross-sectional study of saudi men with hypertension. Int J Nurs Pract. [Internet]. 2019 [cited ub 13 Apr 2020]; 25(6):e12785. Available from:
https://onlinelibrary.wiley.com/doi/10.1111/ijn.12785.
DOI: https://doi.org/10.1111/ijn.12785
22. Magalhães KA, Giacomin KC, Santos WJ, Firmo JOA. A visita domiciliária do agente comunitário de saúde a famílias com idosos frágeis. Ciênc Saúde Colet. [Internet]. 2015 [cited in 27 Nov 2018]; 20(12):3787-96. DOI: https://doi.org/10.1590/1413-812320152012.07622014
23. Souza CFQ, Oliveira DG, Santana ADS, Mulatinho LM, Cardoso MD, Pereira EBF, et al. Avaliação da atuação do enfermeiro em telemedicina. Rev Bras Enferm. [Internet]. 2019 [cited in 15 Mar 2020]; 72(4):933-9. DOI: http://dx.doi.org/10.1590/0034-7167-2018-0313
24. Lima ICV, Galvão MTG, Pedrosa SC, Cunha GH, Costa AKB. Uso do aplicativo Whatsapp no acompanhamento em saúde de pessoas com HIV: uma análise temática. Esc Anna Nery Rev Enferm. [Internet]. 2018 [cited in 15 May 2020]; 22(3):e20170429. DOI: https://doi.org/10.1590/2177-9465-ean-2017-0429
25. Machado JC, Cotta RMM, Moreira TR, Silva LS. Análise de três estratégias de educação em saúde para portadores de hipertensão arterial. Ciênc Saúde Colet. [Internet]. 2016 [cited in 27 Nov 2018]; 21(2):611-20. DOI: 10.1590/1413-81232015212.20112014
26. Guerin CS, Coutinho C, Damaceno FM, Soares NM, Frigo JP, Soares LM. Promovendo educação em saúde no espaço não formal de aprendizagem. Rev Bras Promoç Saúde [Internet]. 2017 [cited in 13 June 2018]; 30(1):5-12. Available from: https://periodicos.unifor.br/RBPS/article/view/5801/pdf. DOI: 10.5020/18061230.2017.p5
27. Moura CN, Fidalgo-Neto AA, Faria DJGS, Muxfeldt E, Alves LA, Comarú MW, et al. Aprendizagem colaborativa sobre hipertensão na educação profissional de agentes comunitários de saúde usando facebook e youtube. EPT Rev. [Internet]. 2018 [cited in 13 June 2018]; 2(1):51-66. Available from: https://ojs2.ifes.edu.br/index.php/ept/article/view/930/669
28. Park E, Kim JS. The impact of a nurse-led home visitation program on hypertension self-management among older community-dwelling koreans. Public Health Nurs. [Internet]. 2016 [cited in 13 Apr 2020]; 33(1):42-52. Available from: https://onlinelibrary.wiley.com/doi/abs/10.1111/phn.12220. DOI: https://doi.org/10.1111/phn.12220
29. Queiroz CL, Freitas JC, Sá DPC. Estudo comparativo dos fatores de risco modificáveis e qualidade de vida de idosos sedentários e idosos praticantes de atividade física. Hígia [Internet]. 2020 [cited in 22 Apr 2020]; 5(1):185-200. Available from: http://fasb.edu.br/revista/index.php/higia/article/view/541

30. Bartlett SJ, Lambert SD, McCusker J, Yaffe M, Raad M, Belzile E, et al., Self-management across chronic diseases: targeting education and support needs. Patient Educ Couns. [Internet]. 2019 [cited in 26 May 2020]; 103(2):398-404. Available from: https://www.sciencedirect.com/science/article/abs/pii/S0738399119303805?via%3Dihub. DOI: https://doi.org/10.1016/j.pec.2019.08.038

Associated Publisher: Vania Del Arco Paschoal

CONTRIBUTIONS
Gabriela de Sousa Lima collaborated in the design, collection and analysis of data, writing and review. **Héryka Laura Calú Alves** participated in data collection and analysis, writing and review. **Célida Juliana de Oliveira**, **Rosely Leyliane dos Santos** and **Emiliana Bezerra Gomes** contributed to the writing and review.

How to cite this article (Vancouver)
Lima GS, Alves HLC, Oliveira CJ, Santos RL, Gomes EB. Action research and adherence to antihypertensive therapy in the family context. REFACS [Internet]. 2021 [cited in *insert day, month and year of access*]; 9(4):924-35. Available from: *insert access link*. DOI: *insert DOI link*

How to cite this article (ABNT)
LIMA, G. S.; ALVES, H. L. C.; OLIVEIRA, C. J.; SANTOS, R. L.; GOMES, E. B. Action research and adherence to antihypertensive therapy in the family context. **REFACS**, Uberaba, MG, v. 9, n. 4, p. 924-35, 2021. Available from: *insert access link*. Access link: *insert day. Month and year of access*. DOI: *insert DOI link*.

How to cite this article (APA)
Lima, G.S., Alves, H.L.C.; Oliveira, C.J., Santos, R.L., & Gomes, E.B. (2021). Action research and adherence to antihypertensive therapy in the family context. *REFACS*, *9*(4), 924-35. Retrieved in: *insert day, month and year of access* from *insert access link*. DOI: *insert DOI link*.