

## Effect of educational interventions on self-efficacy of rural older people with chronic diseases

*Efeito de intervenções educativas na autoeficácia de idosos da zona rural com doenças crônicas*  
*Efecto de intervenciones educativas en la autoeficacia de personas mayores del medio rural con enfermedades crónicas*

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### Abstract

**Objective:** To evaluate the self-efficacy of rural older people with chronic diseases before and after educational interventions (interactive or expository). **Methods:** A quasi-experimental before and after study conducted in September 2016. Educational interventions (interactive or expository) were applied with older people accompanied in two Basic Health Units in the rural area of Senador Pompeu, Ceará. The assignment of intervention to each of the units was defined by lot. The Diabetes Empowerment Scale-Short Form scale was used to verify the effect of interventions. Data were analyzed by descriptive statistics and difference tests. **Results:** Groups 10 (interactive intervention) and 15 (expository intervention) were composed, with a mean age between 66.6 and 68.2 years. Women with primary level and low monthly income predominated. The majority had hypertension (92%) and 24% had another simultaneous chronic disease. Self-efficacy scores in both groups increased after the applied interventions (interactive intervention 0.9 points and expository intervention 0.6 points, respectively), with a statistically significant difference ( $p=0.008$  and  $p=0.001$ ). Of the items evaluated, Need for behavior change and Taking care of oneself obtained a lower and higher increase in the means between the evaluations (0.1 and 1.5, respectively). **Conclusion:** The educational interventions (interactive or expository) applied increased the self-efficacy of older people with chronic diseases.

**Descriptors:** Self efficacy; Health Education; Aged; Primary health care; Chronic disease.

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### Whats is already known on this?

High self-efficacy favors adherence to treatment and may prevent uncontrolled chronic diseases. Promoting interventions that increase self-efficacy should be a priority for primary health care nurses.

### What this study adds?

Interactive or expository educational interventions increased the self-efficacy of rural older people with chronic diseases, especially the interactive approach. Characteristics of the rural context were not associated with self-efficacy.



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### Resumo

**Objetivo:** Avaliar a autoeficácia de idosos da zona rural com doenças crônicas antes e após intervenções educativas (interativa ou expositiva). **Métodos:** Estudo quase-experimental do tipo antes e depois, realizado em setembro de 2016. Aplicaram-se intervenções educativas (interativa ou expositiva) com idosos acompanhados em duas Unidades Básicas de Saúde da zona rural de Senador Pompeu, Ceará. Sorteou-se qual unidade recebeu cada intervenção. Utilizou-se a escala Diabetes Empowerment Scale-Short Form para verificar o efeito das intervenções. Os dados foram analisados por estatística descritiva e testes de diferença. **Resultados:** Compuseram os grupos 10 (intervenção interativa) e 15 (intervenção expositiva) idosos, com média de idade entre 66,6 e 68,2 anos. Predominaram mulheres, com nível primário e baixo rendimento mensal. A maioria tinha hipertensão arterial (92%) e 24% apresentavam outra doença crônica simultânea. Os escores de autoeficácia nos dois grupos aumentaram depois das intervenções aplicadas (intervenção interativa 0,9 pontos e intervenção expositiva 0,6 pontos), com diferença estatística significativa ( $p=0,008$  e  $p=0,001$ ). Dos itens avaliados, Necessidade de mudança do comportamento e Cuidar de si obtiveram menor e maior aumento das médias entre as avaliações (0,1 e 1,5, respectivamente). **Conclusão:** As intervenções educativas (interativa ou expositiva) aplicadas aumentaram a autoeficácia de idosos com doenças crônicas.

**Descritores:** Autoeficácia; Educação em Saúde; Idoso; Atenção Primária à Saúde; Doença Crônica.

### Resumen

**Objetivo:** Evaluar la autoeficacia de personas mayores con enfermedades crónicas del medio rural antes y después de intervenciones educativas (interactivas o expositivas). **Métodos:** Estudio cuasi-experimental de antes y después, realizado en septiembre de 2016. Se aplicaron intervenciones educativas (interactivas o expositivas) a personas mayores acompañados en dos Unidades Básicas de Salud del área rural de Senador Pompeu, Ceará. Se sorteó qué unidad recibiría cada intervención. Se utilizó la Diabetes Empowerment Scale-Short Form para verificar el efecto de las intervenciones. Los datos fueron analizados por estadística descriptiva y pruebas de diferencia. **Resultados:** Los grupos 10 (intervención interactiva) y 15 (intervención expositiva) estaban formados por personas mayores, con una edad media entre 66,6 y 68,2 años. Predominaron las mujeres, con educación primaria y bajos ingresos mensuales. La mayoría tenía hipertensión arterial (92%) y el 24% tenía otra enfermedad crónica simultánea. Las puntuaciones de autoeficacia en ambos grupos aumentaron después de las intervenciones aplicadas (intervención interactiva 0,9 puntos e intervención expositiva 0,6 puntos), con una diferencia estadísticamente significativa ( $p=0,008$  y  $p=0,001$ ). De los ítems evaluados, Necesidad de cambio de comportamiento y Cuidarse a sí mismo tuvieron el menor y mayor aumento de medias entre las evaluaciones (0,1 y 1,5, respectivamente). **Conclusión:** Las intervenciones educativas (interactivas o expositivas) aplicadas incrementaron la autoeficacia de las personas mayores con enfermedades crónicas.

**Descriptor:** Autoeficacia; Educación en salud; Anciano; Atención primaria de salud; Enfermedad crónica.

## INTRODUCTION

Self-efficacy refers to the ability to face adversity and, in the context of health, is an indicator of the quality of self-management of the disease.<sup>(1)</sup> Promoting interventions that increase the self-efficacy of people with chronic diseases favors involvement in health-promoting behaviors and adherence to treatment<sup>(2)</sup> and should be a priority for health professionals. As a member of the multidisciplinary team that accompanies older people with chronic diseases, the Primary Health Care nurses have the necessary resources to intervene in this situation<sup>(1)</sup> and apply health promotion interventions.

Higher self-efficacy scores are associated with improvements in overall health, quality of life, mental health and self-esteem, social functioning and self-care capacity with assertive decision-making,<sup>(1,3,4)</sup> preventing the lack of control of chronic diseases, which entails high costs and complications with sequelae for individuals.<sup>(4)</sup> The evaluation of self-efficacy can be made by validated scales,<sup>(5-7)</sup> and is influenced by several aspects, among them are the sociodemographic, economic and cultural.<sup>(1,2,4,6,8,9)</sup>

People with high self-efficacy consider the difficult behavioral changes to follow in the treatment of chronic diseases as challenges that motivate them, not as threats.<sup>(8)</sup> Thus, health professionals, especially nurses, should implement educational interventions focused on overcoming barriers to increased self-efficacy,<sup>(4)</sup> through the promotion of health literacy, the formation of bonds with patients and their families for social support and the guarantee of access to health services.<sup>(4,9,10)</sup>

Educational interventions related to self-efficacy involve experiential learning, energy conservation, and health technologies.<sup>(3)</sup> For this study, they were classified into two types: interactive and expository. The use of participatory or interactive approaches allows participants to share feelings, perceptions and reflections on the information discussed, enabling a reassignment of meanings and values, in addition to developing critical reasoning.<sup>(11)</sup> On the other hand, traditional or expository approaches involve the transfer of information about health and care with a view to expanding the knowledge, and consequently, the self-efficacy of the participants.<sup>(12)</sup>

In this context, studies show that health interventions increase the self-efficacy of people with chronic diseases.<sup>(13-15)</sup> However, few point out the difference in the effect of interactive or expository interventions on self-efficacy, or the application of these strategies in rural contexts.

Research on self-efficacy and self-management of the disease in rural population has identified that these individuals tend to present more chronic diseases and aggregate unfavorable sociodemographic variables.<sup>(2)</sup> In addition, in northeastern Brazil, older people in rural areas seem to be more resistant to behavior change than those who live in urban areas. As a higher level of self-efficacy favors therapeutic adherence to treatment,<sup>(2)</sup> the proposition of educational interventions for this audience and the evaluation of the effect of these strategies on self-efficacy are important, but have not been identified in publications, suggesting a gap in the literature.

Thus, it is necessary to investigate how different types of health intervention (interactive or expository) alter the self-efficacy of older people with chronic diseases living in rural areas. Thus, the objective of the study is to evaluate the self-efficacy of rural older people with chronic diseases before and after educational interventions (interactive or expository).

## METHODS

This is a quasi-experimental research of the before and after type, with quantitative analysis, carried out in September 2016, in two Basic Health Units (BHU) in the rural area of the municipality of Senador Pompeu, Ceará, Brazil. The BHUs were selected because they had a similar number of registered older people, were geographically accessible to the researcher and allowed the study to be carried out. To guide the presentation of the information, the guidelines for observational studies (Strengthening the Reporting of Observational Studies in Epidemiology - STROBE) were considered.<sup>(16)</sup>

The population consisted of older people with chronic diseases registered in these units, which corresponded to approximately 100 older people in each unit. As criteria listed for inclusion in the research, the participant should be aged 60 years or more and have a medical diagnosis of some type of chronic pathology. People who could not understand the information transmitted by hearing deficits or who had difficulty in speech that prevented adequate verbal communication with the researcher were excluded.

The sample was selected for convenience according to the older people who attended the BHU on the days intended for data collection, which coincided with the days of care of health professionals for the public of people with chronic diseases, in order to favor the identification of these individuals. It is noteworthy that even if the older people had attended the BHU for another purpose they would be invited to the study if they met the eligibility criteria. It was decided not to perform a calculation to define the sample size, in order to reach as many individuals as possible in the time allotted for data collection. It is noteworthy that the identification and recruitment of participants were possible with the help of community health agents and nurses. The older people followed in each of the BHU received different educational strategies. Thus, the units were identified as: Interactive Intervention Group (IIG) and Expositive Intervention Group (EIG). The selection of the unit that received each of the approaches was defined randomly, by drawing lots.

A minimum number of people was not established to initiate educational strategies, the groups were not paired and discontinuity criteria were not applied. Clarifications were provided on the development of the research and the Informed Consent Form was signed on the first day of the participant's attendance, after the necessary ethical and legal authorizations. Thus, participation was voluntary by adherence, as all registered older people were invited to participate in the research. However, approximately only 10% and 15% of the number of people registered in each of the BHU adhered to the participation in this study.

To perform the interactive intervention, health education took place in a weekly meeting, for four weeks, through the formation of a focus group, lasting 60 minutes each. The first meeting took place after consultations with health professionals (physician or nurse), to care for people with chronic diseases, in a reserved space. The remaining three meetings were defined with scheduled day and time, according to the availability of most participants. In the four meetings, health education protocols focused on motivation, self-care, and self-management of the disease and self-knowledge of the older people were applied in order to develop critical reasoning and self-efficacy for the care of chronic conditions. Each of the meetings was conducted by a nursing graduate student from the last semester, supervised by the primary care nurse and the guiding teacher. The health education protocols applied and the description of how the intervention occurred can be verified in a previous publication.<sup>(17)</sup>

To carry out the expository intervention, in the first meeting the older people were invited to participate in a lecture, in which healthy health practices (medication adherence, adequate food, practice of physical activities and stress control) were addressed, aimed at the self-care and self-efficacy of the

participants; this activity was mandatory for the continuity of the study. Afterwards, a folder was delivered with the same information already addressed. For the next three weeks, the researcher attended the unit on the day of the consultation of this group to answer questions about the theme, from an individual interaction, but there was no demand from the older people. The initial lecture was conducted by a nursing graduate student from the last semester, supervised by the primary care nurse and the guiding teacher.

In the first meeting of each participant in both groups, before the educational interventions, the following were applied through interviews: a form with sociodemographic variables (age, gender, religion, race, marital status, education, individual monthly income, occupation and family context) and clinical variables (type of chronic pathology and time of diagnosis of the disease); and the Diabetes Empowerment Scale-Short Form (DES-SF) scale.<sup>(5)</sup> This scale was reapplied through an interview with a primary source, one month after the first application, for both groups, regardless of how many interactions occurred between the researcher and the participant.

Thus, the effect of the strategies proposed by the variations in the scores obtained before and one month after the interventions with the application of DES-SF was evaluated. The scale was translated and validated for Brazil, with acceptable internal consistency (Cronbach's alpha = 0.634), is composed of eight items, used to assess the self-efficacy of people with Diabetes Mellitus, namely: need for behavior change, development of a care plan, overcoming barriers, taking care of themselves, managing emotions, requesting support, personal motivations, and making appropriate decisions about care.<sup>(5)</sup> The international literature indicates that the scale was also validated for Portuguese (Cronbach's alpha = 0.803)<sup>(6)</sup> and Turkish (Cronbach's alpha = 0.883)<sup>(7)</sup> older people with other chronic diseases, not limited to Diabetes Mellitus. Considering that the Turkish version kept the eight items validated for Brazil, it was decided to use DES-SF with the participants of the present study.

Each item/statement of the DES-SF was answered by a five-point Likert scale, from "strongly disagree" (one point) to "strongly agree" (five points). The numerical values for the set of answers were summed and divided by eight generating a mean to assess self-efficacy.<sup>(5,7)</sup>

After collection, the data were processed in SPSS 20.0, organized in tables and analyzed by absolute, relative, mean and standard deviation frequencies. The Mann-Whitney U test (variables with up to two categories) and Kruskal Wallis (variables with more than two categories) were used to compare the total self-efficacy score before educational interventions with the sociodemographic variables; and the Wilcoxon test to compare the total scores and of each DES-SF domain, before and one month after interventions, for each group independently. Findings with a p-value below 0.05 were considered significant. Due to the heterogeneity of the participants and absence of pairing, no inferential statistical analysis was performed between groups. All ethical principles of research with human beings were respected and the project was submitted (CAAE: 58561916.3.0000.5040) and approved by the Ethics and Research Committee (Opinion number 1,698,155) of the researchers' affiliation institution.

## RESULTS

Ten people in IIG and 15 older people in EIG participated in the study. For IIG, women predominated (60%), with a mean age of 66.6 (SD  $\pm$ 5.35) years, retired (90%), with an individual monthly income of 930.00 (SD  $\pm$ 315.1) reais, brown (80%), with a primary level (50%), divorced (40%), who professed some religion (100%) and with a diverse family composition. For EIG, the mean age was 68.2 (SD  $\pm$ 5.68) years, with a predominance of women (53.3%), retired (100%), with an individual monthly income of 1083.66 (SD  $\pm$ 449.3), brown (66.7%), Catholic (86.7%), with primary level (60%), married and living with a partner (66.7%). Considering the two groups, that is, all research participants were not identified statistically significant associations between self-efficacy before educational interventions and sociodemographic variables, according to data presented in Table 1.

**Table 1.** Distribution of participants in the groups interactive intervention (n=10), expository intervention (n=15), total (n=25) of participants and evaluation of Self-efficacy (DES-SF total score) before educational interventions for the total number of participants, according to sociodemographic variables. Senador Pompeu, Ceará, Brazil, 2016.

Sociodemographic variables	Interactive Intervention	Expository Intervention	Total	Total DES-SF score mean (SD)	p-value
	Group n (%)	Group n (%)			
<b>Gender</b>					0.783 <sup>1</sup>
Male	4 (40.0)	7 (46.6)	11 (44.0%)	3.67 (0.6)	
Female	6 (60.0)	8 (53.3)	14 (56.0)	3.69 (0.6)	
<b>Skin color</b>					0.321 <sup>2</sup>
White	1 (10.0)	2 (13.3)	3 (12.0)	3.91 (0.2)	
Brown	8 (80.0)	10 (66.7)	18 (72.0)	3.75 (0.6)	
Black	1 (10.0)	3 (20.0)	4 (16.0)	3.21 (0.7)	
<b>Religion</b>					0.315 <sup>1</sup>
Catholicism	5 (50.0)	13 (86.7)	18 (72.0)	3.73 (0.7)	
Evangelical	5 (50.0)	2 (13.3)	7 (28.0)	3.55 (0.4)	
<b>Education</b>					0.632 <sup>2</sup>
Illiterate	4 (40.0)	6 (40.0)	10 (40.0)	3.57 (0.4)	
Elementary education	5 (50.0)	9 (60.0)	14 (56.0)	3.75 (0.7)	
High school	1 (10.0)	-	1 (4.0)	3.87	
<b>Marital status</b>					0.697 <sup>2</sup>
Married/Stable union	3 (30.0)	10 (66.7)	13 (52.0)	3.71 (0.6)	
Single	2 (20.0)	-	2 (8.0)	3.75 (0.1)	
Divorced	4 (40.0)	2 (13.3)	6 (24.0)	3.45 (0.7)	
Widowed	1 (10.0)	3 (20.0)	4 (16.0)	3.90 (0.6)	
<b>Occupation</b>					0.676 <sup>1</sup>
Retired	9 (90.0)	15 (100.0)	24 (96.0)	3.68 (0.6)	
Others	1 (10.0)	-	1 (4.0)	3.62	
<b>Who do you live with</b>					0.138 <sup>2</sup>
Alone	3 (30.0)	1 (6.7%)	4 (16.0)	3.71 (0.5)	
Partner	3 (30.0)	10 (66.7)	13 (52.0)	3.71 (0.6)	
Children	1 (10.0)	2 (13.3)	3 (12.0)	2.95 (0.6)	
Close relatives	3 (30.0)	2 (13.3)	5 (20.0)	4.0 (0.3)	

SD: Standard Deviation. <sup>1</sup>Mann-Whitney U test. <sup>2</sup> Kruskal Wallis test.

Source: authors (2023).

Regarding the chronic diseases that affected the participants, Arterial Hypertension was the one with the highest prevalence (100% in IIG and 86.7% in EIG), followed by Diabetes Mellitus (13.3% in EIG). While when verifying concomitant chronic diseases in the same individual, in IIG two elderly people and in EIG three participants had both Arterial Hypertension and Diabetes Mellitus. And only one older person in the EIG was affected by Arterial Hypertension and Cerebral Vascular Accident. Regarding the time of disease evolution, considering the oldest diagnosis for simultaneous chronic diseases, the interactive intervention group presented a longer time of diagnosis [13.7 (SD ±9.9) years] than the exposure intervention group [7.8 (SD ±5.4) years].

The score obtained in each item of the DES-SF scale and the total score, with the respective values of statistical difference, for the moments before and after the interventions of both groups, are presented in Table 2. There was an increase in total scores obtained after the interventions, with a statistically significant difference for both groups (IIG p=0.008; EIG p=0.001). Of the items evaluated, Need for behavior change and Taking care of oneself obtained a lower and higher increase in the means between the evaluations (0.1 and 1.5, respectively). Five items for the interactive intervention group and three items for the expository intervention group showed a statistically significant difference, as shown in Table 2.



**Table 2.** Comparison of the means of the items and the total score of the self-efficacy scale before and after the educational strategies in the interactive intervention (n=10) and expository intervention (n=15) groups. Senador Pompeu, Ceará, Brazil, 2016.

ITEMS	Group Interactive Intervention n = 10			Group Expository Intervention n=15		
	Before	After	p-value*	Before	After	p-value*
1. Need for behavior change	4.9	5.0	0.317	4.4	4.6	0.317
2. Development of a care plan	3.9	4.5	0.083	3.7	4.4	0.026**
3. Overcoming barriers	3.3	4.2	0.014**	3.7	4.3	0.041**
4. Take care of yourself	3.0	4.5	0.007**	3.0	4.0	0.011**
5. Emotion management	3.4	4.7	0.027**	2.8	3.4	0.058
6. Support request	3.5	3.7	0.157	3.8	4.2	0.096
7. Personal motivations	3.4	4.6	0.039**	3.7	4.2	0.109
8. Making appropriate decisions about chronic disease care	4.5	4.8	0.038**	4.1	4.4	0.102
<b>OVERALL MEAN SELF-EFFICACY</b>	<b>3.6</b>	<b>4.5</b>	<b>0.008**</b>	<b>3.6</b>	<b>4.2</b>	<b>0.001**</b>

\*Wilcoxon test. \*\*p<0.05.

Source: authors (2023).

## DISCUSSION

The results of this study corroborate the literature by identifying that educational interventions (interactive or expository) in health applied increase the self-efficacy of the older people,<sup>(18)</sup> especially in those with chronic diseases.<sup>(13-15)</sup> In the present study, the two types of educational interventions applied, interactive or expository, increased the self-efficacy of the participants when comparing the total scores before and after the interventions.

Given the aging population, the high prevalence of chronic diseases and the high costs associated with their treatment for individuals, families and health systems,<sup>(4,19)</sup> improving health education, in order to increase self-efficacy, can favor adherence to treatment and reduce the expenses involved. It is noteworthy that people with greater self-efficacy for health take a more active role in their care and are able to self-manage their disease.<sup>(1,4)</sup>

Regarding the types of intervention applied, better results were observed for the group with interactive intervention, in view of the increase in the total scores of the assessment scale (difference of 0.9 point) and for five items presenting statistical difference in the comparison before and after the intervention. A non-randomized controlled study conducted with Korean older people with type 2 diabetes<sup>(20)</sup> employed a person-centered interactive approach associated with physical exercise, and identified more positive results in the self-efficacy of these individuals when compared to another group undergoing traditional expository education. This inclusive education approach proposes the interaction of small groups (10 to 11 people) in order to favor the older people to understand their body, their mind and their intrinsic motivation. Thus, they strengthen knowledge and competence for self-management of chronic clinical conditions.<sup>(20)</sup>

Another study conducted with older people living in long-stay institutions in Turkey showed efficacy in preventing/delaying frailty and increasing self-efficacy. The intervention proposed physical exercises associated with ten 30-minute training sessions on several topics for health empowerment, such as self-care, problem solving, decision making and self-motivation.<sup>(18)</sup> In the present study, only with the interactive educational intervention, positive changes were observed in the items management of emotions, personal motivations and adequate decision-making on the care of chronic diseases, allowing us to infer the benefit of this type of interactive intervention in the self-efficacy of these individuals.

Regarding traditional educational approaches, which are based exclusively on the transmission of information, such as lectures or folder delivery, it is observed that there is no encouragement of participants

(passive listeners) to be at the center of the process of building knowledge about their self-care. Despite this, this type of educational strategy is widely used by primary health care professionals.<sup>(21)</sup>

Educational interventions, in which one group received verbal nursing guidance and the other group had the strategy mediated by an educational booklet, were equally effective in promoting improvement in the quality of sleep of the older people.<sup>(22)</sup> In the present study, the development of a care plan changed in the post-intervention evaluation only in the group submitted to this type of intervention, which may indicate an increase in the level of knowledge about chronic involvement and adherence to treatment, but does not necessarily correspond to greater self-efficacy and behavior change.<sup>(12)</sup>

In addition to the type of educational intervention applied, other sociodemographic, economic and cultural characteristics may influence the self-efficacy of older people with chronic diseases. And although in the present study no statistically significant associations were identified between these variables, this information is relevant to direct health promotion actions for these older people living in rural areas. It is noteworthy that this specific audience more often aggregates the risk factors of low education and lower monthly income.<sup>(2)</sup>

Self-efficacy is favored by higher levels of education, as it broadens the understanding of the importance of treatment and its quality of execution.<sup>(1)</sup> While, lower monthly income with housing in impoverished areas can cause stress to the individuals and fewer opportunities to take actions favorable to the treatment of chronic conditions, such as consumption of healthy foods or the existence of safe areas to exercise.<sup>(4)</sup> Strategies centered on the individual needs of patients<sup>(20)</sup> and social media used as platforms to share information<sup>(4)</sup> can be alternatives to implement educational interventions that expand the self-efficacy of these most vulnerable individuals.

In addition, culturally, older men in the Northeast have greater resistance to change in health behavior and resort late to preventive care, seeking assistance only in situations of exacerbation of chronic diseases.<sup>(8)</sup> Primary health care nurses need to understand this socio-cultural context and adopt self-care measures that are supported. As a strategy for more effective intervention for the male audience, group approaches are recommended, which showed greater psychological adjustment and self-care for men, when compared to those of individual intervention.<sup>(8)</sup>

Regarding the items that make up the self-efficacy scale employed, the identification of lower scores in any of them may indicate the need for a specific intervention, which will reflect in the improvement of the total score and in more favorable health behaviors.<sup>(19)</sup> From the scores obtained in each item, it is evident that in the two groups analyzed, the older people recognize the need for behavior change for health control. However, they have difficulties in taking care of themselves, managing emotions and overcoming barriers. In addition, the two types of intervention proposed were not able to significantly modify the item Request for support by the participant.

Recognizing the need for behavior change and in what aspects it is necessary, favors the establishment of action plans to be developed. The nurses should focus their assessments on the specific skills of the older people with chronic disease to develop goals that can be successfully met to control the disease.<sup>(13)</sup>

Results of an integrative literature review,<sup>(4)</sup> indicated three barriers to self-efficacy of people with chronic diseases, namely: lack of literacy or health literacy, lack of access and social support. Regarding health literacy, an investigation carried out in people with hypertension concluded that a better numerical and global understanding of health literacy was associated with greater adherence to drug treatment of the disease,<sup>(10)</sup> indicating a relationship between these phenomena and self-efficacy for self-management of treatment and an important focus for health interventions.

Formal social support is provided by nurses, who should guide their actions in qualified listening, forming bonds with patients and their families and ensuring access to health services.<sup>(9)</sup> Results of a qualitative study, conducted with adults with type 1 diabetes, indicate that people without strong social support, when they did not reach glycemic control, developed combative relationships with professionals and disconnected from health care,<sup>(23)</sup> impairing self-care, managing emotions and overcoming barriers. Furthermore, other studies are needed to verify the relationship between self-efficacy, adherence to treatment and social support in people with chronic diseases, proposing more targeted strategies for this supported care by nurses.

To overcome these barriers, fill a gap in the reach of patients and favor the self-management of the disease, access to the internet, increasingly greater among the older people, is shown as a potential strategy.<sup>(4)</sup> As well as person-centered telephone support,<sup>(13)</sup> especially for rural populations with less

contact with specialized care locations; and self-management programs, as patients' empowerment develop according to the increase in self-efficacy and self-management of their disease.<sup>(3)</sup>

In this sense, it is evident the need of health professionals, especially nurses, in the development of effective interventions to increase the self-efficacy of rural older people with chronic diseases. In the present study, the two types of interventions proposed (interactive or expository, respectively) produced positive results in the items overcoming barriers and taking care of oneself. While, emotion management had a higher mean increase between evaluations for both groups, and request for support presented a lower mean increase in both groups, indicating the need for interventions that increase the bond between professionals and participants in the short, medium and long term, with a stimulus for the longitudinality of care.

The limitations of this study are related to the small sample size and heterogeneity, resulting from the time available for data collection; selection bias and type of sampling, as older people volunteers participated who may not compose a representative geographical sample; the use of interventions without metrics; and self-report about self-efficacy, despite the use of a validated form to investigate the phenomenon.

The contributions of this study to nursing practice are in the suggestion that educational strategies (interactive or expository) can increase the self-efficacy of rural older people with chronic diseases. It is expected that the data obtained can provide theoretical and practical support to health professionals and managers on the importance of educational actions aimed at self-efficacy and self-management of treatment, especially in the older population affected by these pathologies.

## CONCLUSION

The educational health interventions (interactive or expository) applied increased the self-efficacy of rural older people with chronic diseases participants of the study, since the mean total scores evaluated before and after the interventions for both groups increased and showed a statistically significant difference. It is noteworthy that the interactive intervention modified more items (five) that make up self-efficacy, when compared with the expository intervention (three).

For future studies, it is suggested to apply interventions with larger samples, for a longer follow-up period to verify the effect of educational interventions in the long term. Another suggestion is to use of other educational strategies that propose individualized self-management of chronic diseases and multiprofessional monitoring, with measurement of clinical outcomes indicating increased self-efficacy, measured from behavior change.

## CONTRIBUTIONS

Contributed to the conception or design of the study/research: Morais HCC, Nascimento LB. Contributed to data collection: Morais HCC, Nascimento LB. Contributed to the analysis and/or interpretation of data: Morais HCC, Nascimento LB, Mendes IC. Contributed to article writing or critical review: Morais HCC, Nascimento LB, Cavalcante SN, Lima LR, Maniva SJCF, Campos RKG. Final approval of the version to be published: Morais HCC, Nascimento LB, Cavalcante SN, Lima LR, Maniva SJCF, Campos RKG, Mendes IC.

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