

# EDUCATIONAL INTERVENTIONS IN IMPROVING QUALITY OF LIFE FOR HYPERTENSIVE PEOPLE: INTEGRATIVE REVIEW

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# **ABSTRACT**

**Objective:** to evaluate the effectiveness of educational interventions in improving the quality of life of people with arterial hypertension.

**Method:** an integrative literature review which included studies that conducted educational interventions aimed at the hypertensive public to improve quality of life. The search was performed in the following databases: MEDLINE, LILACS, IBECS, CUMED, BDENF, SciELO and CINAHL, without restriction of language, date and sample size. For this, the following descriptors were crossed: "hipertensão" (hypertension), "educação em saúde" (health education) and "qualidade de vida" (quality of life). 619 articles were retrieved and after the selection and analysis process, a total of 10 made up this review. Data extraction and analysis were performed with the help of validated instruments and the result summarized.

**Results:** Most studies were developed on a quasi-experimental basis, using generic instruments to measure quality of life with significant improvement after educational interventions, with group technology being the most used educational strategy. Just one study used a specific instrument to evaluate hypertensive patients. **Conclusion:** these results may direct the interventions to be implemented by health professionals in managing arterial hypertension. Further investigations are needed to identify and verify the most effective interventions for hypertensive patients, considering heterogeneous profiles and aiming at improving quality of life.

**DESCRIPTORS:** Quality of Life. Hypertension. Health Education. Chronic Disease. Review.

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# INTERVENÇÕES EDUCATIVAS NA MELHORA DA QUALIDADE DE VIDA DE HIPERTENSOS: REVISÃO INTEGRATIVA

#### **RESUMO**

**Objetivo**: avaliar a efetividade de intervenções educativas na melhora da qualidade de vida de pessoas com hipertensão arterial.

**Método:** revisão integrativa da literatura que incluiu estudos que realizaram intervenções educacionais direcionadas ao público hipertenso com vistas à melhora da qualidade de vida. Busca realizada nas bases de dados: MEDLINE, LILACS, IBECS, CUMED, BDENF, SciELO e CINAHL, sem restrição de idioma, data e tamanho amostral. Para tal, cruzaram-se os descritores: "hipertensão", "educação em saúde" e "qualidade de vida". Foram resgatados 619 artigos e após o processo de seleção e análise, um total de 10 compuseram esta revisão. A extração e análise dos dados foram realizadas com auxílio de instrumentos validados e o resultado sumarizado.

**Resultados:** a maioria dos estudos foi desenvolvida em caráter quase experimental, utilizando-se de instrumentos genéricos para mensuração da qualidade de vida com melhora significativa após a realização de intervenções educativas, sendo a tecnologia grupal a estratégia educacional mais utilizada. Apenas um estudo utilizou instrumento específico para avaliação em hipertensos.

**Conclusão:** estes resultados podem direcionar as intervenções a serem implementadas por profissionais de saúde no manejo da hipertensão arterial. Futuras investigações são necessárias para identificar e verificar as intervenções mais eficazes aos pacientes hipertensos, considerando perfis heterogêneos e visando à melhora da qualidade de vida.

DESCRITORES: Qualidade de Vida. Hipertensão. Educação em Saúde. Doenças Crônicas. Revisão.

# INTERVENCIONES EDUCATIVAS EN EL MEJORAMIENTO DE LA CALIDAD DE VIDA DE HIPERTENSOS: REVISIÓN INTEGRADORA

#### **RESUMO**

**Objetivo:** evaluar la eficacia de las intervenciones educativas en el mejoramiento de la calidad de vida de personas con hipertensión arterial.

**Método:** revisión integradora de la literatura que incluyó estudios que han realizado intervenciones educativas direccionadas al público hipertenso con el objetivo de mejorar su calidad de vida. La búsqueda se realizó en las bases de datos MEDLINE, LILACS, IBECS, CUMED, BDENF, SciELO e CINAHL, sin restricción de idioma, fecha ni tamaño de muestra. A tal efecto, se utilizaron los descriptores "hipertensión", "educación en salud" y "calidad de vida". Se tomaron 619 artículos y luego de un proceso de selección y análisis esta revisión se compone de un total de 10. La extracción y el análisis de datos se realizaron con el auxilio de instrumentos validados e se procedió a la síntesis de los resultados.

**Resultados:** la mayor parte de los estudios se desarrolló con carácter casi experimental mediante el uso instrumentos genéricos para medir la calidad de vida, con significativa mejoría después de realizadas las intervenciones educativas, siendo la tecnología grupal la estrategia educacional más utilizada. Apenas un estudio utilizó un instrumento específico para la evaluación de hipertensos.

**Conclusión:** estos resultados pueden direccionar las intervenciones que deben llevarse a cabo por profesionales de la salud en el manejo de la presión arterial. Es necesario profundizar las investigaciones para identificar y verificar las intervenciones más eficientes en pacientes hipertensos, considerando perfiles heterogéneos a fin de mejorar su calidad de vida.

DESCRIPTORES: Calidad de vida. Hipertensión. Educación en salud. Enfermedades cróicas. Revisión.

#### INTRODUCTION

Cardiovascular diseases are one of the main causes of hospitalization and mortality in Brazil and worldwide, with Arterial Hypertension (AH) as an important risk factor and severe public health problem. With low control and high national coverage, AH affects 32.5% (36 million) of adult individuals contributing directly or indirectly to 50% of deaths from cardiovascular disease. A population survey such as the survey system for risk factors and protection against chronic diseases by phone inquiry (VIGITEL) estimates a prevalence between 23% and 25% in individuals aged 18 years old or older in the Brazilian capitals.

Multiple factors may contribute to high AH prevalence, such as overweight and obesity, aging, physical inactivity, excessive salt use, harmful alcohol use, psychological stress, genetic factors, and socioeconomic determinants.<sup>2</sup> Guidelines recommend non-pharmacological therapy as an initial approach to AH management, as lifestyle modification offers universal appeal as an intervention because the costs in motivated individuals are minimal and may lead to withdrawal of additional drugs used to control blood pressure value.<sup>4</sup>

Controlling blood pressure by the individual influences in the change in behaviors and lifestyle habits and is strongly related to Quality of Life (QoL),<sup>5-6</sup> defined by the World Health Organization (WHO) as "the individual's perception of his position in life, in the context of the culture and value system in which he lives and in relation to his goals, expectations, standards and concerns".<sup>6</sup>

Different situations can affect an individual's QoL. The chronicity of a disease, side effects from drug therapy, and clinical complications interfere with physical, emotional, intellectual status, social interaction, and activities of daily living, all of which are determinants of QoL.<sup>5,7</sup> Poor adherence to treatment negatively affects the patient's clinical course and QoL, causing adverse outcomes, such as, increased morbidity and mortality.<sup>8</sup>

Educational technologies in the most varied modalities (tactile and auditory, expository and dialogical, printed and audiovisual) have been presented as an important health promoting resource, in addition to the relationship between health professionals and the population, fundamental and decisive in the effectiveness of technological use.<sup>9</sup>

Educational interventions prove to be a valuable resource for improving therapeutic adherence and control, <sup>10</sup> affecting disease-related variables, such as, lower blood pressure levels. In the long run, they may even interfere with disease progression and the prevalence of conditions associated with AH. <sup>11</sup> Non-pharmacological treatment, however, improves quality of life (QoL) and physical domain of people with AH. <sup>12</sup>

Nurses have achieved different results in their practices, which has given them prominence in different dimensions of care, resulting in benefits to several chronic patients during follow-up in disease management and educational programs.<sup>13–14</sup> However, in relation to individuals with AH, the benefits from educational interventions are limited and described due to the evaluation being secondary to other health conditions. Identifying interventions that are effective in improving QoL and therefore clinical and prognostic outcomes is imperative for qualified care.

Thus, this study aimed to evaluate, in the literature, the effectiveness of educational interventions in improving the QoL for people with AH.

# **METHOD**

This is an Integrative Literature Review, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyzes (PRISMA).<sup>15</sup> To build up this review, six steps were taken: identification of the theme and selection of the guiding hypothesis or question; establishing inclusion and exclusion criteria; defying the information to be extracted from the selected studies; evaluating studies included in the integrative review; interpreting the results and synthesis of knowledge.<sup>16</sup>

Data collection occurred in two moments, October 2017 and updated in April 2019, based on the following guiding question: What is the effectiveness of educational interventions in improving the quality of life of people with AH? The wording of the question considered the acronym PICO<sup>17</sup> where P (Population of interest): people with Arterial Hypertension; I (Intervention): individual or collective educational interventions; O (Result/Outcome): improved quality of life. The C element (Comparison) was not addressed, as this study did not objective to compare interventions.

Searches were performed on MEDLINE electronic data sources via PubMed, Latin American and Caribbean Health Sciences Literature (LILACS), Spanish Bibliographic Index for Health Science (IBECS), National Center for Medical Sciences Information of Cuba (CUMED) and Nursing Database (BDENF) via Virtual Health Library (VHL), Online Electronic Scientific Library (SciELO) and Cumulative Index to Nursing and Allied Health Literature (CINAHL). All references in the articles identified by the search strategy and selected for full reading were also consulted and searched manually. We used the Health Sciences Descriptors (Descritores em Ciências da Saúde, DECs), Medical Subject Heading (MeSH) and CINAHL titles.

The search strategy followed the criteria of each database combined with the Boolean operators AND and OR and the words ("Hypertension" [Mesh]) AND ("Health Education" [Mesh]) AND ("Quality of Life" [Mesh]), grouped and combined in such a way as to exhaust all possibilities and to provide as many references as possible. The selection of studies and analysis of results was made by two researchers who alternated search tactics and independent and joint evaluation of articles that met the inclusion criteria, and disagreements were resolved by consensus.

The criteria for inclusion were the following: studies evaluating QoL of people with AH describing some educational intervention, regardless of whether this assessment was the primary or secondary outcome. It was decided not to establish a time frame, language and sample size for the searches, in order to increase the scope of the investigation. Studies whose QoL assessment had been performed by qualitative analysis, studies that did not use QoL measuring instruments (generic or AH specific), letters to the editor, observational studies, duplicates, and secondary studies, were excluded. These eligibility criteria were used for the first stage of study analysis, which consisted of reading the title and summarizing the articles.

In the second stage of the analysis, by reading the full article, investigations without educational intervention prior to the measurement of QoL were excluded, or studies in which the educational intervention was performed after the measurement of QoL without comparative analysis (pre- and post- intervention). Other types of studies were also excluded, being those investigations that did not respond to the objective of this investigation or that showed in the sample composition patients with prehypertension or predominance of AH according to other comorbidities.

After judicious selection of articles through the search strategy and comparison of results between the two researchers, the articles that made up the final sample for analysis were grouped and the essential variables inserted in a Microsoft Office Excel (2016) spreadsheet. The following items were detailed: bibliographic data, title, objectives, study design, sample size, educational intervention performed, professionals who performed the intervention, results achieved and QoL measurement scales used in the studies.

In order to describe the methodological quality of the selected studies, the tool developed and tested by Ursi was used. Still, the publications were qualified according to the level of scientific evidence proposed by Howick and collaborators: level I - the evidence comes from a systematic review of randomized controlled trials or from systematic reviews of randomized controlled trials; level II - evidence derived from individual or observational randomized systematic reviews; level III - evidence obtained from non-randomized controlled, cohort or follow-up studies; level IV - evidence from well-designed case-control, case and longitudinal studies; level V - evidence from descriptive studies.

With the results synthesized and grouped in synoptic tables, we proceeded to a careful, detailed and descriptive analysis, comparing the data with the theoretical knowledge in the search for results integration.<sup>16</sup>

# **RESULTS**

Based on the search strategies and the selection process, 70 studies were included for full reading, of which ten<sup>20–29</sup> made up the final sample. No additional publications were found from other sources. Figure 1 displays the selection process of these studies.

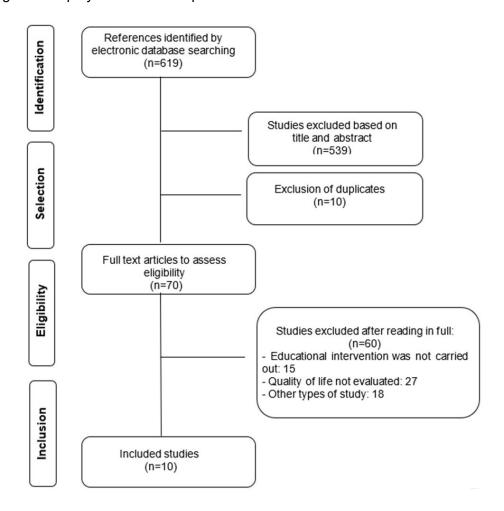


Figure 1 – Flowchart of the study selection process according to PRISMA. Brazil, 2019. (N=10)

## Characterization of the studies

The selected studies were performed on only two continents: Asian (n=5) and American (n=5), with heterogeneous representation between the countries. In relation to the year of publication, the period from 2000 to 2010 prevailed.<sup>21–24,26–27</sup> As for language, most were published in English (n=08). The publications exclusively included patients diagnosed with AH (n=10).

The characteristics of the samples were heterogeneous: Mean follow-up time varied from four<sup>25</sup> up to thirty-sex week.<sup>29</sup> The number of involved varied from 40<sup>22</sup> to 385 participants.<sup>29</sup> Of these, most were composed of a predominantly elderly population<sup>20,22,24–26,28</sup> and female.<sup>20,23–26</sup>

The prevalent research design was the quasi-experimental clinical trial (n=5) with level of evidence III, 20-23,25 followed by randomized controlled trials (n=4), level of evidence II, 25-28 and a nonrandomized clinical trial, level of evidence III. 29 Chart 1 summarizes the characteristics of each study and its experiments.

**Chart 1 –** Characteristics of studies on educational interventions on the quality of life for hypertensive patients in chronological order, 2016 - 1998. Goiânia, GO, Brazil, 2019. (N=10)

2	×			2011-24		
study	Autnor, Year, Country,	Journal	Designing	Objective	Intervention/Duration	Sample
E120	Souza et al., 2016 Brazil	Plos One	Before and after quasi- experimental clinical trial	To test the effectiveness of an educational intervention using educational technology (flipchart) to promote quality of life, treatment and adherence in people with arterial hypertension.	Educational intervention in workshops of 6 to 8 people through the flipchart during 3 steps with an average interval of 25 days.	<del>1</del> 6
E2 <sup>29</sup>	Saleem et al., 2013 Pakistan	Health Expect	Nonrandomized clinical trial	To better understanding of arterial hypertension, increased medication adherence, and improved quality of life.	CG: No intervention performed (N=192). IG: Educational intervention of individual counseling for 9 months and twice a month, lasting 10 minutes each session (N=193).	385
E3 <sup>25</sup>	Park et al., 2011 South Korea	Patient Educ Couns	Randomized clinical trial	To examine the effectiveness of an integrated health education and exercise program for adults with arterial hypertension.	CG: No intervention performed (N=23). IG: Group health education (once a week) and individual counseling (once every four weeks, lasting one and a half hours) for 12 weeks (N=22).	45
E426	Shen et al., 2009 China	J Clin Nurs	Randomized clinical trial	To evaluate the effectiveness of health education-associated Chinese food therapy in correcting Yin deficiency and to examine its impact on the patient quality of life and arterial hypertension control.	CG: Educational Intervention in Health (N=37).  IG: Educational Intervention in Health and Chinese Food Therapy (N=48).  The interventions were performed for 12 weeks.	85
E521	L. Leanne Lai, 2007 EUA	Consult	Before and after quasi-experimental clinical trial	To assess whether a community pharmacy educational management program for hypertension improves patient clinical outcomes and quality of life in a Latin American/Hispanic community.	Consultations addressing health status, drug profile, nonpharmacological therapy, lifestyle changes, self-monitoring, and focus group for sharing experiences. The interventions were performed for 6 months.	53



Chart 1 - Cont.

Study	Author, Year, Country,	Journal	Designing	Objective	Intervention/Duration	Sample
E627	Mohammadi et al., 2006 Iran	Int J Nurs Pract	Randomized clinical trial	To evaluate an educational intervention based on the partnership model for hypertension control.	CG: No educational intervention (N=75). IG: Health educational intervention with four group meetings and 11 individual counseling, lasting 40 to 45 min and between 5 to 7 patients per intervention (N=75).	150
E7 <sup>22</sup>	Côté et al., 2005 Canada	J Clin Pharm Ther	Quasi- experimental study	To evaluate the effect of an educational program on the quality of life of individuals treated for arterial hypertension.	CG: No educational intervention (N=56). IG: Educational intervention in health for 9 months (N=35).	91
E8 <sup>23</sup>	Arévalo et al., 2005 Colombia	Acta Colomb Psicol	Before and after quasi-experimental clinical trial	To determine the impact of an educational lifestyle modification program on blood pressure levels and quality of life of people diagnosed with arterial hypertension.	Educational interventions in weekly groups, lasting 18 weeks and average time of 2h 30min for each session.	44
E9 <sup>24</sup>	Erci et al., 2003 Turkey	J Adv Nurs	Before and after quasi-experimental clinical trial	To determine the effectiveness of educational nursing care according to the Watson Care Model on blood pressure and quality of life of patients with arterial hypertension.	Home visits once a week for three months.	52
E10 <sup>28</sup>	Barrón-Rivera et al., 1998 Mexico	Salud Pública Méx	Randomized clinical trial	To evaluate the effect of an educational intervention on the quality of life of arterial hypertension.	CG: No intervention performed (N=75). IG: Monthly educational intervention in six meetings with orientations on changes in lifestyle (N=75).	150

CG: control group; IG: intervention group.

# Characterization related to quality of life

The professionals who implemented the interventions were nurses as leaders<sup>24–26</sup> or in conjunction with other categories through the multidisciplinary work: nurse and physical educator<sup>20</sup> nurse and doctor.<sup>30</sup> Three studies brought the exclusive action of the pharmacists,<sup>21–22,29</sup> one of the psychologists<sup>23</sup> and one of the doctors <sup>28</sup>

Chart 2 shows that QoL was measured by different instruments, the generic ones being *The 36-Item Short Form Health Survey* (SF-36) most prevalent (n=5), followed by the *12-Item Short-Form Health Survey* (SF-12), the European Quality of Life Scale 5-D (EQ-5D), the *European Quality of Life Visual Analogue Scale* (EQ - VAS) and the *Quality of Life Scale* developed by using Rolls Royce model with one study each. Just one investigation used a specific instrument to assess the L of hypertensive people,<sup>20</sup> or the *Life Quality Mini-Questionnaire* (MINICHAL).

Of the 10 defined studies, just one showed no significant improvement in QoL in any aspect.<sup>21</sup> An investigation<sup>22</sup> presented worsening in the general health and social function facets and improvement in the vitality facet. In the other investigations, there was an overall improvement in QoL (n=5)<sup>20,24,26–27,29</sup> or by specific facets of the used scales: in the general health condition;<sup>25</sup> in the mental component, physical function, physical role and emotional role;<sup>23</sup> in physical strength, mood, thinking ability, sociofamily life, quality of life perception and sexual functioning.<sup>28</sup>

**Chart 2 -** Distribution of studies according to the instrument used for quality of life assessment, professionals involved and obtained outcomes. Goiânia, GO, Brazil, 2019.

Study	Used instrument	Involved professionals	Obtained outcomes
E1 <sup>20</sup>	MINICHAL	Nurses and physical educators	Significant improvement in quality of life (p<0.001)
E2 <sup>29</sup>	EQ-5D	Pharmaceutics	Significant improvement in quality of life (p<0.001)
E3 <sup>25</sup>	SF-36	Nurses	Improvement in general health facet (p<0.001)
E4 <sup>26</sup>	SF-36	Nurses	Significant improvement in quality of life (p<0.001)
E5 <sup>21</sup>	SF-12	Pharmaceutics	There was no significant improvement in quality of life.
E6 <sup>27</sup>	SF-36	Doctors and nurses.	Significant improvement in quality of life (p<0.005)
E7 <sup>22</sup>	SF-36	Pharmaceutics	Improved vitality facet among high-income patients (p<0.005)
E8 <sup>23</sup>	SF-36	Psychologists	Improvement after facet intervention: mental component (p<0.003), physical function (p<0.001), physical role (p<0.001), emotional role (p<0.001)
E9 <sup>24</sup>	Quality of life developed by using Rolls Royce model	Nurses	Significant improvement in quality of life (p<0.001)
E10 <sup>28</sup>	European Quality of Life Visual Analogue Scale	Doctors	Improved facets: physical strength (p<0.04), mood state (p<0.001), thinking ability (p<0.033), sociofamily living (p<0.02), perception of quality of life (p<0.004) and functioning sexual intercourse (p<0.01)

MINICHAL: Life Quality Mini-Questionnaire; SF-36: The 36-Item Short Form Health Survey; EQ-5D: European Quality of Life Scale; SF-12: 12-Item Short-Form Health Survey.

## DISCUSSION

The problem of AH has been increasingly discussed worldwide, aiming at the commitment of different countries in the creation of public policies and coping strategies that have as goals the reduction of risk factors, prevention and control of this disease.<sup>2,4</sup> In general, specific lines of care guide services and actions that ensure emotional, informational and instrumental support to their carriers,<sup>9</sup> allied with the management of fundamental lifestyle changes in the therapeutic and preventive process of the disease.<sup>12–13</sup> Nurses played a prominent role in investigations individually or acting in conjunction with a multidisciplinary team. Nursing care for people with AH uses strategies to prevent, recognize and respond to adherence problems and thus maximize long-term compliance and blood pressure control.<sup>31</sup> This attitude demonstrates unique skills and knowledge that nurses use in the management and prevention of diseases among chronic diseases.<sup>13</sup>

In this study, educational interventions impacted the improvement of QoL for people with AH. However, although most investigations have a good level of evidence, with quasi-experimental and randomized clinical trials, the sample size was heterogeneous, limiting the generalization of the obtained results.

Most of the educational interventions benefited by the group technology, which is considered to be a potential tool for health promotion. Surveys have shown that group activities seem to contribute to better perception of the health and disease process, as it helps individuals to find new coping strategies and to live with their limitations, 9,12,31 besides facilitating the collective construction of knowledge, and proposing reflection on the reality experienced by the group members.<sup>32</sup>

In Primary Health Care (PHC) through the Family Health Strategy (FHS), multiprofessional teams play a strategic role in this scenario, as they offer the biological and psychosocial care that chronic diseases tend to need, and technology group is part of the list of reorientation of health care practices proposed by the Ministry of Health.<sup>33</sup> By identifying the needs of the user and the link with the health professional, group practices in monitoring programs provide subsidies for self-care education by empowering subjects in view of their roles in health maintenance.<sup>9,33</sup>

There are several educational interventions available such as telephone monitoring, text messaging, conversation maps, nursing consultation, among others that can be employed for people with AH. Comparisons between modalities of interventions with similar follow-ups should be encouraged for replication in various population profiles in pursuit of similar outcomes.

Evidence suggests that the effect of the educational intervention decreases over time and is proportional to the exposure time, with reinforcement and longer contact time with the educator. Continuity is necessary as lifestyle change occurs in the medium to long term. However, the success of these interventions is known to depend on raising awareness of changes in lifestyle and maintaining the recommended care. Strategies that encourage behavior change have been shown to be more effective than orientation strategies.

Teaching strategies should focus on managing potential barriers that may affect optimal health behaviors. These barriers include lack of awareness of the health condition (having AH or need for secondary prevention), reluctance to take medications for asymptomatic conditions or side effects, and difficulties adhering to treatment regimens, especially if they are complex.<sup>4,37</sup>

The sample prevalence characteristic of women and the elderly agrees with the worldwide epidemiological results.<sup>2,4</sup> Authors suggest that women seek health services more than men, because they are commonly concerned with health maintenance.<sup>38</sup> In general, when comparing the results obtained between men and women, it is clear that males have better scores on QoL scores because they have greater tolerance to chronic diseases, and are not emotionally affected as women.<sup>38–39</sup>

Regarding the age, the elderly correspond to the largest proportion among the hypertensive individuals, although there is a tendency to change this scenario in the future.<sup>4</sup> The QoL score tends to worsen with advancing age, as in the process of aging, physiological and functional changes make the individual more vulnerable to chronic diseases leading to impairment of physical aspects.<sup>38–40</sup>

The studies did not provide data related to socioeconomic conditions and schooling of the studied populations, although the interference of these factors on QoL is clear in the literature<sup>38–41</sup> and most deaths from cardiovascular disease occur precisely in low- and middle-income countries, which have mostly people with lower rates of these factors.<sup>2</sup>

Not only AH is prevalent in low- and middle-income countries,<sup>41</sup> as there is accentuated exposure to behavioral risk factors such as unhealthy diet, harmful and abusive alcohol use, lack of physical activity, overweight and persistent stress exposure. In addition, due to inefficient health systems, the number of people with AH who are undiagnosed, untreated and uncontrolled in follow-up is also higher when compared to high-income countries.<sup>2,4,41</sup>

Low education may reflect negatively on people's QoL, since it compromises the health education process, a strategy that enables the adoption of healthy behaviors and social mobilization to improve living conditions, due to the lack of understanding of little relevance to participation in educational programs.<sup>7,9,37</sup> Also, the lower the education level is, the lower the blood pressure control is and the lower the treatment adherence is.<sup>38–39</sup>

Another factor to highlight is using different scales to assess QoL. Because it is a multiparameter interference feature, there are several QoL questionnaires with equally different models and application situations.<sup>42</sup>

In general, these questionnaires presented physical (independence, ability to perform daily tasks, pain, vitality, well-being), psychological (emotional aspects, mental health, anxiety/depression, social (environment, social aspects) and spiritual issues. (religiosity) The use of QoL assessment tools provides a reliable and concrete assessment of the overall impact that diseases have on an individual's life and has as its main advantage the inclusion of subjective aspects.<sup>43</sup> All scales used had reliability and validated psychometric properties, giving credibility to their outcomes. However, such questionnaires may not be sensitive to disease-specific symptoms.<sup>44</sup>

Only one educational intervention did not measure QoL by generic instrument.<sup>20</sup> MINICHAL<sup>45</sup> is a scale specially developed to evaluate the QoL of hypertensive patients and has two domains: mental state and somatic manifestations. In Brazil, this scale has already been translated and validated and can be widely used in both population-based and clinical trials.<sup>46</sup>

Almost all studies have shown improvement in QoL of hypertensive patients in the overall score or in specific dimensions resulting from participation in educational activities, proving that QoL encompasses several human experiences and is not limited to being healthy or not.<sup>7,9,38,47–48</sup> Individuals with chronic diseases may have health dissatisfaction, but this does not necessarily represent dissatisfaction with QoL, leading to the manifestation of positive perceptions on the health status.<sup>7,12,39,47</sup>

The study<sup>21</sup> which submitted negative data regarding the influence of educational interventions on QoL, has a small sample size and short follow-up. Such factors may have interfered in the analysis of data that did not transfer sensitivity to changes occurred during interventions.

Health professionals should continuously assess QoL in the health services, pay attention to the dimensions that are most affected in patients with AH and intervene early, as this aspect may come to negatively influence adherence and treatment.

The specific instrument for assessing QoL in hypertensive patients was used in only one study, highlighting the need for further investigations to assess the impact of disease-specific symptoms. The variety of samples and scales used in the investigations precludes the generalization of the

results and the identification of the educational intervention that best interferes positively in the QoL of hypertensive patients, highlighting a gap for future studies.

# CONCLUSION

Educational interventions were effective in improving the QoL of hypertensive patients, demonstrated in nine of the ten studies analyzed. From the findings of this review, it is possible to infer that studies with larger samples, longer follow-up and multiprofessional collaboration could generate more relevant clinical findings. The most frequent intervention was group technology, proving to be a valuable educational resource.

Comparisons between gender, educational level and income are also necessary, since such variables seem to influence QoL and may be useful in developing better strategies for different contexts and populations. The heterogeneity observed in these studies, despite the methodological similarity, may come to influence the effectiveness of the intervention requiring further studies and clarification.

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# **NOTES**

# **CONTRIBUTION OF AUTHORITY**

Study design: Silva RC, Cavalcante AMRZ. Data collection: Silva RC, Cavalcante AMRZ.

Analysis and interpretation of data: Silva RC, Cavalcante AMRZ.

Discussion of the results: Silva RC, Cavalcante AMRZ.

Writing and/or critical review of content: Silva RC, Vieira F, Suzuki K, Cavalcante AMRZ.

Review and final approval of the final version: Silva RC, Vieira F, Suzuki K, Cavalcante AMRZ.

# **CONFLICT OF INTEREST**

There is no conflict of interest.

#### **HISTORICAL**

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