



# Construction and validation of audiovisual resources to motivate people with hypertension to use antihypertensives

*Construção e validação de recursos audiovisuais para motivar pessoas com hipertensão ao uso de anti-hipertensivos*

*Construcción y validación de recursos audiovisuales para motivar a las personas con hipertensión para utilizar antihipertensivos*

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## ABSTRACT

**Objective:** Building and validating audiovisual communication and persuasive messages to motivate the use of antihypertensive drugs. **Method:** Methodological study based on the beliefs of people with systemic arterial hypertension in relation to drug treatment, supported by the Theory of Planned Behavior. The principles of Fleming and Persuasion were adopted for the development of audiovisual communication and messages. 13 expert judges performed the content validation, analyzed by the Content Validity Index. **Results:** the audiovisual communication has 3 minutes and 58 seconds in duration and 71 screens. Twenty-nine persuasive illustrated messages were considered valid, 15 positive and 14 negative messages. **Conclusion and implications for practice:** Audiovisual communication and persuasive messages were considered valid, adequate and capable of persuasion to motivate the use of oral antihypertensives. Intervention research is necessary to test the effect of audiovisual resources with the intention of carrying out the behavior.

**Keywords:** Hypertension; Antihypertensive drugs; Persuasive communication; Audiovisual resources.

## RESUMO

**Objetivo:** Construir e validar comunicação audiovisual e mensagens persuasivas para motivar o uso de anti-hipertensivos. **Método:** Estudo metodológico baseado nas crenças de pessoas com hipertensão arterial sistêmica em relação ao tratamento medicamentoso, tendo o suporte da Teoria do Comportamento Planejado. Adotaram-se os princípios de Fleming e da Persuasão para desenvolvimento da comunicação audiovisual e mensagens. 13 juízes especialistas realizaram a validação de conteúdo, analisada pelo Índice de Validade de Conteúdo. **Resultados:** A comunicação audiovisual apresenta 3 minutos e 58 segundos de duração e 71 telas. Foram consideradas válidas 29 mensagens persuasivas ilustradas, sendo 15 positivas e 14 negativas. **Conclusão e implicações para a prática:** A comunicação audiovisual e as mensagens persuasivas foram consideradas válidas, adequadas e com capacidade de persuasão para motivar o uso de anti-hipertensivos orais. Pesquisa de intervenção faz-se necessária para testar o efeito dos recursos audiovisuais com intenção de realizar o comportamento.

**Palavras-chave:** Hipertensão; Anti-Hipertensivos; Comunicação Persuasiva; Recursos Audiovisuais.

## RESUMEN

**Objetivo:** Construir y validar la comunicación audiovisual y los mensajes persuasivos para motivar el uso de antihipertensivos. **Método:** Estudio metodológico basado en las creencias de las personas con hipertensión arterial sistêmica en relación con el tratamiento farmacológico, apoyado por la Teoría del Comportamiento Planificado. Los principios de Fleming y la Persuasión fueron adoptados para el desarrollo de la comunicación y los mensajes audiovisuales. 13 jueces expertos realizaron la validación del contenido, analizada por el Índice de Validez del Contenido. **Resultados:** La comunicación audiovisual tiene 3 minutos y 58 segundos de duración y 71 pantallas. Se consideraron válidos 29 mensajes ilustrativos persuasivos, 15 mensajes eran positivos y 14 negativos. **Conclusión e implicaciones para la práctica:** La comunicación audiovisual y los mensajes persuasivos se consideraron válidos, adecuados y capaces de persuadir para motivar el uso de antihipertensivos orales. La investigación de intervención es necesaria para probar el efecto de los recursos audiovisuales con la intención de llevar a cabo el comportamiento.

**Palabras clave:** Hipertensión; Drogas anti-hipertensivas; Comunicación persuasiva; Recursos audiovisuales.

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## INTRODUCTION

Adherence to the drug treatment of systemic arterial hypertension (SAH) is considered complex and difficult to manage by the person with hypertension. Such fact occurs because it is a long-term treatment, with the presence of adverse effects, considerable cost and, sometimes, unpleasant, which results in lack of adherence.<sup>1</sup> Thus, it is important to develop motivating, theory-based strategies, to strengthen and encourage the taking of antihypertensives.<sup>2</sup>

The Theory of Planned Behavior (TPB) assumes that human behavior is predicted by intention (motivation) and influenced by three psychosocial determinants and their respective beliefs: attitude, formed by behavioral beliefs, likely outcomes of behavior and evaluations of these outcomes by individuals; subjective norm, formed by normative beliefs about the opinion of significant people and the motivation to meet these expectations; and perceived behavioral control, inherent to control beliefs about the presence of factors that may facilitate or impede behavior performance. Therefore, interventions aimed at changing/strengthening it can be directed at one or more of its determinants and, once changes occur in these factors, should produce transformations in behavioral intentions.<sup>3</sup>

When considering that the measure of intent is influenced by relevant beliefs about behavior, an intervention is successful when it produces a change in that measure; and in order to change it, it is necessary to reach the beliefs that guide the phenomenon of interest. Among the interventions suggested by TPB to modify beliefs and intention, persuasion is highlighted.<sup>3-5</sup>

Persuasion is the power to influence and motivate people to adhere to a particular purpose, which can use communication and messages to change attitudes, beliefs or behaviors.<sup>6</sup> Thus, the aim of persuasive communication is to provide relevant information to a specific audience in order to change some of their beliefs to modulate behavioral intent.<sup>5</sup>

However, there are no general guidelines that determine what types of information should be included in messages to maximize desired changes in primary beliefs about behavior. The information can be brief or long, in print, audio, audiovisual, or interactive form, and used to reach a wide audience at relatively low cost.<sup>5</sup> Messages with different frameworks (positive or negative) can be included in order to influence beliefs, attitudes, subjective norms and perceived control and, consequently, the conception of an intention favorable to the realization of the behavior.<sup>4</sup>

The application of persuasive messages and/or communications to health-related behaviors has shown incentive and maintenance of preventive behaviors,<sup>7-9</sup> influence in the displacement of beliefs<sup>10,11</sup> and variation in behavioral intention.<sup>12,13</sup> In the cardiovascular diseases scenario, studies were found that developed persuasive messages to promote physical activity,<sup>14</sup> and obtaining adherence to therapeutic and preventive recommendations among individuals with coronary artery disease.<sup>10</sup>

In the context of SAH - a disease considered a public health problem that affects about 22%<sup>15</sup> of adult people in the world and 32.5% in Brazil,<sup>16</sup> a study was identified that evaluated the impact of positive (advantages and benefits) and negative (disadvantages or damages) messages in the decision to use

antihypertensives to reduce the risk of cardiovascular disease in the next 10 years. However, the information was only intended to warn about the consequences of using or not using the prescribed drugs.<sup>17</sup>

In Brazil, no studies have been identified on the development of communication and persuasive messages directed at the behavior "use of oral antihypertensives", despite the evidence of low adherence of people with SAH to treatment, which implies unfavorable outcomes in maintaining health and quality of life.<sup>1</sup>

Considering the problem of SAH for public health and the need to incorporate light technologies as adjuvant strategies to enhance therapeutic adherence and, consequently, reduce complications and the prevalence of the disease, audiovisual resources with persuasive content structured based on the beliefs, preferences and understanding of the therapy instituted by this population should be the focus of health actions that go beyond traditional intervention strategies.

In this perspective, it becomes relevant to build attractive technologies that motivate the maintenance of healthy behaviors and reinforce important aspects related to the health/disease and well-being process, based on the beliefs about the use of oral antihypertensives.

Therefore, it is believed that innovative technologies such as those presented in this study can support the nurse in educational and care strategies to maximize the adherence to therapy of people with SAH in order to achieve stability of altered pressure levels. In view of the above, the objective was to build and validate audiovisual communication and persuasive messages to motivate the use of antihypertensives.

## METHOD

Methodological development study, conducted from December 2018 to July 2019, in two distinct and interrelated stages, as described below:

**Step 1:** The TPB<sup>3-5</sup> assumptions recommend that, for the structuring of persuasive messages, arguments should be based on the primary beliefs that underpin the behavior of interest by the group intended to receive it. In this sense, a previous study<sup>18</sup> was carried out with the objective of analyze the behavioral, normative and control beliefs related to drug treatment for SAH. Twenty-eight people with SAH participated in a follow-up in a cardiology outpatient clinic.

The beliefs obtained were categorized through frequency and content analysis, selecting the salient modals (issued with a frequency equal to more than five) to compose the communication and persuasive messages, which included: Behavioral beliefs (controlling pressure, avoiding complications and death, feeling well, avoiding symptoms of illness, safety and tranquility in relation to my health, adverse/unfriendly effects, being a treatment for life); normative beliefs (children, husband (wife), physician, family); and Control beliefs (purchasing the pills free of charge, the act of taking the pills, low cost of prescribed medication, forgetting the schedule, when you have to buy).<sup>18</sup>

**Step 2:** Audiovisual communication and persuasive messages were developed and content validation by experts carried out. This stage was consolidated in three distinct moments, according to the recommendations of Fleming:<sup>19</sup> pre-production, production and post-production.

*1st moment - Pre-production:* occurred with the construction of the textual script of communication and persuasive messages (positive and negative) by the principal researcher and the elaboration of the *Storyboard*, i.e., the orientation plan for the production of audiovisual elements.<sup>20</sup> The beliefs elicited in previous study,<sup>18</sup> the six principles of persuasion (reciprocity, consistency, authority, social validity, scarcity and attraction) and the characteristics of the elements that should constitute them (concise, clear and attractive sentences, images, idea of the text, suggestive vocabulary appropriate to the target audience) were considered.<sup>6</sup>

The *Storyboard* was structured in Microsoft Word®, within a two-column frame, with the first column containing passages of the persuasive message elaborated and to be illustrated and the second column containing the audiovisual resources suggested to be used (colors, images, animations, texts, narration and background sounds).

*2nd moment - Production:* consisted in implementing the ideas elaborated in the pre-production (*Storyboard*).<sup>19,20</sup> This phase was carried out by the researcher, together with an art and media professional, with experience in developing technologies for communication. The audiovisual communication scenes were created based on the textual communication excerpts and illustrated by the professional developer's own vector bank images, using Adobe Photoshop®, Adobe Illustrator® and Sony Vegas PRO® software. For this development, the legislation regarding the copyright of use and reproduction of audiovisual resources was observed.<sup>21</sup>

At this stage, the colors, backgrounds, messages, animations, background music, sounds and illustrative images of the video and messages were chosen. Colors were applied mixed between pastel tones and stronger colors, animations, screen changing, soundtrack and effects and final message, stimulating the ability to perform the behavior. The narration inserted in the video was done, on a voluntary basis, by a communication professional.

The audiovisual communication presents persuasive and motivational information and arguments about aspects related to SAH, such as the concept of the disease, physiological aspects, risk factors and side effects of drugs. The beliefs were incorporated, emphasizing the importance of adherence to treatment, contemplating positive reinforcements of the advantages of taking antihypertensives and mitigating possible disadvantages. The relevance of positive social referents as motivating agents for behavior was emphasized, facilities were emphasized and difficulties in adherence to drug treatment were minimized. The video lasted 4 minutes and 15 seconds and 84 scenes.

For the messages, arguments related to the issued beliefs were also used, which were developed in application screen format. A clean concept was chosen, adopting the blue screen background for the positive ones, for transmitting positivity, harmony and serenity, in order to stimulate the positive side of taking the prescribed pills; and red was chosen for the background of the negative messages, since this color suggests alert, intensification and strengthening of information, which, in this case, show the consequences of not taking the pills.

The choice of the color of the yellow font in the messages was intended to draw attention to the words on the part of the spectators, highlighting the words emphasized in the beliefs, and this color has a stimulating character, which fits the purpose of the elaborated messages.

The persuasive messages were structured based on the recommendations of the theoretical model<sup>5</sup> in 32 screens in application formats, 16 positive and 16 negative messages, consisting of short texts with images and *emojis* alluding to the content of the issued beliefs and with a maximum of 20 words. The positive messages seek to reinforce in the beliefs, the advantages and evaluation of the consequences of adopting the desired behavior, the motivation of the individual to agree with positive social references and to raise awareness about the ease of using antihypertensives. The negative ones highlight the disadvantages of not adopting the behavior of using oral antihypertensives.

It is worth mentioning that the negative messages were elaborated in a mirror way, that is, the textual content was similar to positive communication. As an example, if the content of the positive message was: "Taking the pills for hypertension correctly increases your chances of controlling the disease," the wording in a negative way would be: "Not taking the pills for hypertension makes it difficult to control the disease and can make you feel bad".

*3rd moment - Post-Production:* involved editing, with the help of a media professional, and the validation of video content and messages by expert judges in the areas of knowledge.<sup>19,22,23</sup> These were selected by meeting one of the following criteria: acting in the area of Information and Communication Technologies and Art and Media; providing care and developing research directed at the person with SAH; and conducting teaching and research with TPB coverage.

After collecting the names of the specialists, through consultation of the curriculum in the Lattes Platform and reading of previous scientific articles of their authorship in any of these areas, invitations were sent via (*e-mail*) to 23 specialists. Of these, 13 agreed to participate in the content validation process.

Then, via the *Google Docs*® platform, the Free and Informed Consent Term, the audiovisual resources produced and the instrument for content analysis were forwarded. Participants were asked to return the material evaluated within 30 days.

In the tool for content analysis (video and messages), the following properties were considered: *Comprehensiveness* (adequately covered by the set of items evaluated - content, language, target audience of the communication, illustrations, narration, duration, persuasive potential evaluated); *clarity* (if

the persuasive attributes were described in an understandable manner); *relevance* (if they expressed a true relationship with the proposal of the study in question); and *persuasion* (if they could be considered persuasive).<sup>22,23</sup>

Each property was rated using a Likert-type scale, with scores ranging from 1 to 4: 1 = I disagree Totally (not relevant/unrepresentative/unclear); 2 = I disagree (needs major revision to be representative/unclear); 3 = I agree (small revision to be representative/very clear); 4 = I agree Totally (relevant/representative/very clear). At the end of the instrument, a space was provided for the voluntary inclusion of suggestions and/or modifications, independent of the analysis conducted, in order to improve persuasive communications.<sup>23</sup>

The Content Validity Index (CVI) calculation was used, which measures the proportion or percentage of experts who agree with the content of the material being evaluated.<sup>24,25</sup> The CVI was calculated by adding the number of items that received a score of “3” or “4”, divided by the total number of responses. To classify the item being evaluated as valid, the CVI was considered  $\geq 0.8$ . Items that obtained a CVI  $< 0.8$  were excluded and/or reformulated.<sup>23</sup> It should be noted that, even if a valid CVI was obtained, all constructions were re-evaluated and suggestions for changes were accepted, when considered pertinent by the researchers.

The study integrates the research “Effect of persuasive communications on the behavioral intention of hypertensive patients to take the prescribed pills for the control of hypertension”, approved by the local Research Ethics Committee (Opinion No. 2.446,615/2017 and CAAE: 79671317.3.00005782). All participants authorized their participation by signing the Free and Informed Consent Term. Regarding the copyrights of the images used, Law No. 9,610 of February 19, 1998 was complied with.

## RESULTS

The arguments used in communications and persuasive messages to influence the behavior “taking the prescribed pills to control blood pressure” were structured from the salient modal beliefs, coming from a representative stratum of the group researched, as previously explained.

For the process of validation of communications and messages, 13 specialists participated who met one or more inclusion criteria outlined, 11 nurses, 1 physiotherapist and 1 visual media professional. Regarding the degree, there were 11 doctors, one master and one post-doctorate. Regarding performance, 11 were involved in teaching and research, 1 in a realistic simulation center and 1 in digital media development. It should be noted that the specialists resided in different federal states of Brazil, i.e.: Rio Grande do Sul, São Paulo, Minas Gerais, Ceará and Paraíba.

The aspects evaluated, the suggestions, as well as the content validity indices assigned by the experts are described in Table 1. It is possible to notice that, even with maximum agreement index for items 1, 2, 5, 6, 7, 9 and 10, the experts presented some suggestions regarding appearance, narration and sound, video duration and information.

The most suggested changes occurred in relation to: darkening of the screen colors to contrast with the white letter color of the

writings on the screen, as presented on the screen below “dispels symptoms”; addition of subtitles on the screens; image of the drug, which in the initial version was presented as a capsule; image of the ‘medical’ professional for the health care team; and decrease in the time the video was displayed. The suggestions were accepted and the new version of the video was 3 minutes and 58 seconds long and 71 screens. Some produced screens are presented in Figure 1.

Table 2 presents the Content Validity Indices inherent to the analysis, by experts, of the positive and negative persuasive messages, in which passages highlight the beliefs that subsidized their construction.

The results reveal that the 16 positive and 16 negative messages can contribute as a persuasive strategy to the use of antihypertensives, be used as a care technology by health professionals and by the individual with hypertension and, furthermore, are adequately covered by the set of items (content, language, target audience, illustrations, figures and persuasive potential), obtaining CVI  $\geq 0.80$  for the aspects analyzed, with the exception of the content of message 3, which obtained CVI  $< 0.80$  and was reformulated.

The main suggestions referred to the one(s): changing the term “hypertension” to “blood pressure” in message 3, related to the belief “feeling good”; images used, such as adding images of pills and not capsules; adding younger people, with the aim of demonstrating that not only the elderly can have SAH; insert short messages, with a maximum of 20 words, in order to prevent long messages from dispersing the user’s attention; darken the background color, to contrast with the white and yellow of the font, associated with the use of *emojis*, in order to intensify persuasive appeal, improve the writing of some messages, and thus provide adequate understanding by the target audience. Some examples are illustrated in Figure 2.

It is important to emphasize that after the researchers’ evaluation of the positive and negative messages that made reference to the beliefs of ease and/or difficulty to adhere to treatment by “Low cost” and/or “When you have to buy the pills”, the positive message number 16 and the negative numbers 14 and 16 were excluded. Such conclusions occurred due to the unfeasibility of elaborating persuasive arguments appropriate to a population that presents socioeconomic difficulties to acquire the drugs, several times reported as a problem that goes far beyond its volitional control. These messages addressed beliefs related to difficulties in acquiring drugs, such as, for example, when they have to be purchased because they are not available free of charge, even if they are at low cost, considering the low income context of the interviewees.

Depending on this weighting, 29 illustrated messages (15 positive and 14 negative) were considered valid in relation to their content and appearance. It should be noted that, due to the high rates of agreement among experts for almost all items, there was only one cycle of evaluation. The audiovisual resources are available in full on the channel of the Laboratory of Care Technologies - TecSaúde, Youtube®. The audiovisual communication can be accessed via the *link* [https://youtu.be/85aF\\_JcDqHU](https://youtu.be/85aF_JcDqHU), and the persuasive messages at the following address: <https://youtu.be/dTGICGpCOI8>.

**Table 1.** Distribution of the Content Validity Indices (CVI) attributed by specialists to the aspects evaluated in the video and suggestions, according to the beliefs issued by individuals with hypertension. Campina Grande/Paraíba, Brazil, 2019. (n=13)

Analyzed aspects	CVI Items	Suggestions from the Experts
1. Is the communication appropriated for the target audience?	1.00	More paused narration and legend for the deaf people.
2. Is the language easy to understand?	1.00	To explain what arterial hypertension is.
3. Are the colors and shapes of the illustrations adequate?	0,77	To darken the screens that have white letters, use colors with more emphasis, alter the image of the brain.
4. Is the layout of the pictures in harmony with the text?	0,77	To alter the image of the pharmaceutical form capsule and put pill.
5. Are the illustrations relevant to the understanding of the content?	1.00	It was suggested to alter some images to make the communication more convincing.
6. Is the narration adequate to the content?	1.00	To improve the noise /muffling that was presented in the video, as well as the mismatch in the reading pause, and maintain the tone of voice, giving greater intonation to the most relevant information.
7. The communication is expressed in a persuasive way?	1.00	To reduce the size of the video, since, long, it becomes tiring.
8. Is the running time satisfactory?	0.77	It is long. Think of shorter versions that direct to the full video, as a strategy for dissemination.
9. Does communication contribute as a persuasive strategy to change beliefs and protective behaviors?	1.00	To add information about remembering to take the medication.
10. Can it be used as a care technology by health professionals and the individual with hypertension?	1.00	To insert information that help the hypertensive individual to take the medication.

Source: Research data, 2019

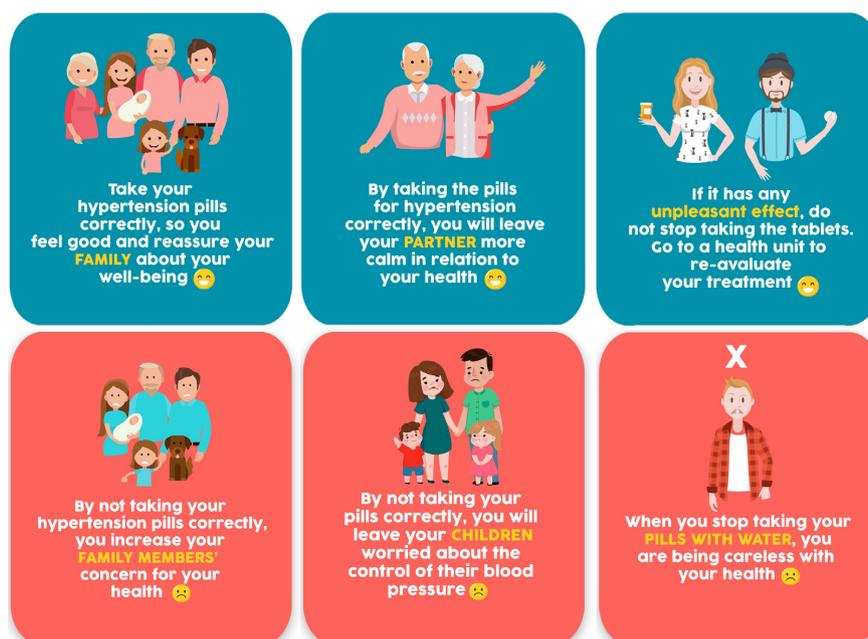


**Figure 1.** Screens images of the video after expert analysis and modifications carried out. Campina Grande/Paraíba, Brazil, 2019. Source: Own elaboration

**Table 2.** Distribution of the Contents Validity Indexes (CVI) attributed by experts to the aspects evaluated in the positive and negative messages, according to the beliefs issued by individuals with hypertension. Campina Grande/Paraíba, Brazil 2019. (n=13)

Beliefs used in the construction of the persuasive messages	POSITIVE Messages			NEGATIVE Messages		
	R/I	Cont.	IVC	R/I	Cont.	IVC
<b>Behavioral beliefs</b>						
1. To control the blood pressure	1.00	1.00	1.00	0.92	0.92	0.92
2. To avoid complications of disease and death	1.00	1.00	1.00	1.00	1.00	1.00
3. Feeling good	1.00	0,77	0,88	0,92	0,92	0,92
4. To avoid symptoms of the disease	1.00	1.00	1.00	1.00	1.00	1.00
5. Feeling safe and calm	1.00	1.00	1.00	1.00	1.00	1.00
6. Adverse effects (unpleasant)	0.92	1.00	0.96	0.92	1.00	0.96
7. Dependent on treatment	1.00	1.00	1.00	1.00	1.00	1.00
<b>Normative Beliefs</b>						
8. Children	1.00	1.00	1.00	0.92	1.00	0.96
9. Husband (Wife)	1.00	1.00	1.00	0.92	1.00	0.96
10. Physician (female)	0.84	1.00	0.92	0.92	1.00	0.96
11. Family	1.00	1.00	1.00	1.00	1.00	1.00
<b>Control Beliefs</b>						
12. To acquire for free	0.92	1.00	0.96	1.00	1.00	1.00
13. To take by oral route	0.92	1.00	0.96	0.77	0.84	0.80
14. Low cost	1.00	1.00	1.00	1.00	1.00	1.00
15. Forgetting the timetable	1.00	1.00	1.00	0.92	1.00	0.96
16. When you have to buy	0.84	0.84	0.84	0.92	0.92	0.92

Source: Research Data, 2019; Legend: R/I= Writing and Illustration; Cont.=Content; CVI= Message Content Validity Index



**Figure 2.** Images of persuasive positive and negative messages after modifications made with suggestions from experts. Campina Grande/Paraíba, Brazil, 2019.

Source: Own elaboration

## DISCUSSION

According to PCT, the intention is an immediate predictor of behavior, and interventions outlined from behavioral, normative or control beliefs can influence intentions in the desired direction of behavior.<sup>3-5</sup> Thus, audiovisual communication and persuasive positive and negative messages based on the beliefs of people with SHAS<sup>18</sup> about drug treatment have been built to strengthen healthy antihypertensive taking behavior and modulate negative beliefs into positive ones in relation to this behavior.

Audiovisual communication and persuasive messages produced in an attractive way, using the resources of images and sound with persuasive language, are considered stimulating tools with the potential to influence the adoption of health behaviors.<sup>7,8,14</sup>

Information-only interventions for the management of hypertension have limited effectiveness, particularly among disadvantaged populations.<sup>24</sup> In the face of such findings, the use of videos only with information about the disease, as well as informative written messages, is not sufficient.<sup>25</sup> Resources built on emotional factors, which value personal, experiential, and cultural aspects, should be developed to motivate everyday behaviors, such as taking antihypertensives, a proposal listed for this study.

In this process, the validation of the content of the material elaborated by the authors, by specialists from different areas and also with the participation of experienced professionals in the care of the person with SAH from different Brazilian regions, interested in contributing to the improvement of the technologies built, was essential for its development, because although the content is intentionally structured by local beliefs, points addressed in the material are present in other regions of Brazil, such as the Southeast region,<sup>1</sup> valuing the richness of the product.

It was noted that the audiovisual resources developed were well evaluated by experts with regard to clarity, relevance and coverage. It should be noted that each suggestion was analyzed, even if the aspects evaluated obtained IVC  $\geq 0.80$  both in the messages and in the video and, when appropriate, the recommendations were taken into account to promote acceptance and understanding by the target audience. The results corroborate other investigations that used content validation in the construction of care technologies to promote health in chronic diseases.<sup>26,27</sup>

As demonstrated in a previous study,<sup>18</sup> the initial choice of the medical professional to illustrate the belief, both in the video and the messages, occurred because only this member of the health care team was cited as a positive reference for drug treatment. However, following and agreeing with the suggestion of most specialists, who were nurses and contributed massively to the follow-up of this clientele at different levels of health care, this image was modified.

However, this result alerts us to the necessary protagonism of the nurse in terms of his role as educator and his representativeness to the users. It warns us that, in the scenario researched, the users might not have, in the person of the professional nurse, a reference of importance that could influence them in the direction of therapeutic adherence. Thus, it is necessary to rethink the care

and actions developed, in order to strengthen the bond, in the perspective that the nurse becomes an important social referent when the subject refers to health.

Thus, by expanding the positive referrals beyond the physicians, individuals who access these resources will be able to reflect on the presence and importance of other professionals in the health team as support for decisions favorable to treatment.

As for the messages and their corresponding illustrations, they were also modified in accordance with the notes made by the experts and, as they were similar beliefs and a bank of image vectors, it was decided to keep the same illustrations, with the aim of standardizing the material built.

It is important to highlight the importance of using diverse persuasive approaches to influence attitudes, beliefs and intentions in the adoption and promotion of beneficial health behaviors.<sup>11</sup> It was chosen to present the messages with positive and negative framing in order to model the components of behavioral intention of antihypertensive use in future investigations. It is emphasized that negative messages are not intended to punish, but to raise awareness of undesirable complications in the face of non-adherence to prescribed drug therapy, reinforcing the importance of performing the behavior.

Corroborating this assertion, a clinical trial conducted in Korea evaluated the effect of positive and negative messages on self-care education in diabetic patients. The findings showed that negative messages produced stronger effects on attitudes, perceived behavioral control and intentions towards self-care compared to positive messages<sup>9</sup>

Thus, audiovisual communication and persuasive messages, built based on TPB and persuasion principles,<sup>6</sup> are considered to be a qualified product, since their structuring was anchored in a theoretical and methodological reference compatible with the object of study, and it was reckoned with the appreciation of a committee of experts, carefully selected to evaluate them. Therefore, it is believed that the audiovisual resources produced will contribute to the care of the nurse and multidisciplinary team in health promotion and education for the SAH control.

In the future, this material will be inserted in an application being developed for a smartphone, a tool that will be tested and will be in the public domain, and can be accessed for free by the target audience. New research with experimental design will be conducted, aiming to evaluate the effect of persuasive communications with the intention (motivation) of making people with SAH aware of the need to use antihypertensives.

The material, after testing, can be used by the multi-professional health team, involved in the care and monitoring of people with SAH, especially by the nursing team, which takes direct and daily care of this clientele in the different scenarios of performance. Because it is a hard - light technology, its content can be applied in different ways, since it is an easy-to-apply technology with low cost in its dissemination.

As a difficulty, the access to experts in digital media and TPB is pointed out, due to the low return to invitation letters and *e-mails* requesting the appreciation of the content, which limited

the quantity of participants in the research, although it satisfied the methodological recommendations for the validation studies by experts. In addition, the absence of this type of technology in the literature makes it difficult to compare results, and this study is a pioneer in the area of nursing and care of people with SAH.

Finally, it is believed that these technological resources can contribute to motivate and strengthen the healthy behavior of taking oral antihypertensives, as they are built with emphasis on positive reinforcement of the target audience's beliefs to perform the behavior.

## CONCLUSION AND IMPLICATIONS FOR PRACTICE

Audiovisual communication and persuasive messages, outlined based on the beliefs of people with SAH and supported by the Theory of Planned Behavior, are adequate, clear, pertinent, comprehensive, and capable of persuasion to motivate the use of oral antihypertensives.

It is expected that audiovisual resources will be implemented by the nurse and other health professionals as a care intervention in educational actions to enhance the drug therapy prescribed for the clinical control of SAH. As dynamic original resources, they present elements (images and sounds) to instrumentalize knowledge about the disease, reinforce, clarify information and motivate the consistent use of prescribed drugs.

As a future proposal, the researchers aim at a clinical trial using constructed audiovisual resources in order to investigate the effect of audiovisual communication and persuasive messages with positive and negative frameworks on the modulation of behavioral intention to adopt oral antihypertensives.

## AUTHOR'S CONTRIBUTIONS

Study design. Taciana da Costa Farias Almeida. Data collection. Taciana da Costa Farias Almeida. Simone Helena dos Santos Oliveira. Data analysis and interpretation of results. Taciana da Costa Farias Almeida. Mailson Marques de Sousa. Bernadete de Lourdes André Gouveia. Simone Helena dos Santos Oliveira. Writing and critical review of the manuscript. Taciana da Costa Farias Almeida. Mailson Marques de Sousa. Bernadete de Lourdes André Gouveia. Simone Helena dos Santos Oliveira. Approval of the final version of the article. Responsibility for all aspects of the content and integrity of the published article. Taciana da Costa Farias Almeida. Mailson Marques de Sousa. Bernadete de Lourdes André Gouveia. Simone Helena dos Santos Oliveira.

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