



## Validation of persuasive audiovisual communication to reduce salt consumption by people with heart failure\*

Validação de comunicação persuasiva audiovisual para redução do consumo de sal por pessoas com insuficiência cardíaca

Validación de la comunicación persuasiva audiovisual para reducir el consumo de sal en personas con insuficiencia cardíaca

### How to cite this article:

Sousa MM, Almeida TCF, Gouveia BLA, Freire MEM, Oliveira SHS. Validation of persuasive audiovisual communication to reduce salt consumption by people with heart failure. Rev Esc Enferm USP. 2021;55:e03751. <https://doi.org/10.1590/S1980-220X2020006503751>

-  Mailson Marques de Sousa<sup>1</sup>
-  Taciana da Costa Farias Almeida<sup>2</sup>
-  Bernadete de Lourdes André Gouveia<sup>3</sup>
-  Maria Eliane Moreira Freire<sup>4</sup>
-  Simone Helena dos Santos Oliveira<sup>5</sup>

\* Extracted from the thesis: "Comunicação persuasiva para motivar a intenção de reduzir o consumo de sal em pessoas com insuficiência cardíaca", Programa de Pós-Graduação em Enfermagem, Universidade Federal da Paraíba, 2019.

<sup>1</sup> Universidade Federal da Paraíba, Programa de Pós-Graduação em Enfermagem, João Pessoa, PB, Brazil.

<sup>2</sup> Universidade Federal de Campina Grande, Campina Grande, PB, Brazil.

<sup>3</sup> Universidade Federal de Campina Grande, Campus Cuité, Cuité, PB, Brazil.

<sup>4</sup> Universidade Federal da Paraíba, Departamento de Enfermagem Clínica, João Pessoa, PB, Brazil.

<sup>5</sup> Universidade Federal da Paraíba, Escola Técnica de Saúde, João Pessoa, PB, Brazil.

### ABSTRACT

**Objective:** To build and validate persuasive audiovisual communication content to reduce salt consumption in the diet of people with heart failure. **Method:** Methodological study, of a technological method, based on the Theory of Planned Behavior, in which the stages of pre-production, production and post-production were followed. Content validation was carried out with specialists in the field of health and communication. **Results:** Based on the survey of beliefs related to salt reduction, the video contains 42 screens with three minutes and eleven seconds in duration and has animations and motivational arguments with the aim of positively influencing behavioral intention and modeling negative beliefs in positive ones. In content validation, the judges unanimously agreed with the evaluation criteria for the target audience, language, harmony, figures, narration and persuasion strategy. The Content Validity Index was satisfactory with a 97% agreement. **Conclusion:** Persuasive audiovisual communication was considered valid in terms of content, becoming a tool to enhance the reduction of salt consumption in the care of people with heart failure.

### DESCRIPTORS

Persuasive Communication; Heart Failure; Diet, Sodium-Restricted; Video-Audio Media; Social Theory; Behavior.

### Corresponding author:

Mailson Marques de Sousa  
Rua Othília Barros de Medeiros,  
156, apto. 202, Jardim Oceania  
CEP 5803-710 – João Pessoa, PB, Brazil  
[mailson\\_ms@hotmail.com](mailto:mailson_ms@hotmail.com)

Received: 02/17/2020  
Approved: 01/01/2021

## INTRODUCTION

Heart failure (HF) is a systemic disease, considered as the final route of most heart diseases<sup>(1)</sup>. Among the non-pharmacological management measures for maintaining the clinical stability of HF, the restriction of sodium/salt consumption in the diet is an adjuvant self-care measure to minimize cardiac remodeling in this population<sup>(2)</sup>. Studies show that a diet with a high sodium content has been associated with exacerbation of the symptoms of HF due to pulmonary congestion, favoring clinical outcomes that are unfavorable to life<sup>(3-4)</sup>.

National and international guidelines advise the restriction of sodium/salt in the diet of clinical practice individually, in which the stage of the disease and the pharmacological therapy instituted must be considered, in order to reduce neurohormonal changes responsible for accentuating symptoms of hypervolemia, increasing the risk of hospital admissions<sup>(5-6)</sup>. However, this recommendation has low adherence in patients with HF<sup>(7)</sup>.

The BREATHE study – Brazilian Registry of Acute Heart Failure, which aimed to outline the panorama of HF in the Brazilian scenario, identified that 8.9% of the causes of clinical decompensation of the disease were due to inadequate consumption of sodium and fluids. The record also showed that only 34.9% of patients received guidance at hospital discharge on the importance of following a low sodium/salt diet<sup>(8)</sup>.

Therefore, the proposition of interventions to strengthen/change behaviors must be based on theory for a better understanding of the phenomenon and the variables that require intervention. Thus, the Theory of Planned Behavior (TPB) can help nurses to understand the factors that determine the behavior of reducing salt consumption, as well as identifying beliefs, ease and/or difficulties to do it, offering subsidies to intervene in the teaching-learning and motivating process of people with HF<sup>(9)</sup>.

Believing that sodium restriction in the diet is a necessary behavior for the lifestyle of people with HF, the creation of care technologies that favor the adoption of protective health behaviors is relevant. In this sense, persuasive communication is a potentially successful intervention in strategies aimed at the population's health, as it is considered an interventional means used to influence individual norms, attitudes and beliefs that support the behavior to be modified<sup>(10)</sup>.

According to TPB, the focus of persuasive communication is to present relevant information to a target audience to change some of their salient beliefs for forming behavioral intention. Thus, interventions outlined based on behavioral, normative or control beliefs can succeed in producing corresponding changes in attitudes, subjective norms and perceived behavioral control. In addition, these changes can further influence intentions in the desired direction of behavior<sup>(9-10)</sup>.

Researches that used persuasive communication with the objective of promoting behavioral intention beneficial to health have shown satisfactory results<sup>(11-13)</sup>. In the

context of HF, when investigating the state of the art, some studies developed in the international scenario based on TPB were found, which used the verbal counseling strategy as a persuasion tool for adopting a low sodium diet<sup>(14-15)</sup>.

In the national scenario, until the development of this research, studies on the creation of care technology in the format of persuasive communications directed to people with HF were not identified. Therefore, the development of this audiovisual technology was considered pertinent, as an innovative proposal, due to its versatility in the combination of text, image and sound, given the need to readapt traditional strategies to new care technologies for this population.

With the availability of technology, the motivation of people with HF to incorporate the reduction of salt in the diet is envisioned as a behavior inherent in daily life, to add measures to achieve stability and decrease physical, psychological changes and, consequently, the rates of clinical decompensation and morbidity and mortality of these individuals.

Therefore, the aim of this study was to develop and validate the content of a persuasive audiovisual communication to reduce salt consumption in the diet of people with HF.

## METHOD

### TYPE OF STUDY

Technological methodological study carried out in two stages: elaboration of persuasive communication of short duration and content validation with expert judges, carried out from May to September 2018.

#### 1<sup>ST</sup> STAGE: PREPARATION OF PERSUASIVE AUDIOVISUAL COMMUNICATION ACCORDING TO THE RECOMMENDATIONS PROPOSED BY FLEMING: PRE-PRODUCTION, PRODUCTION AND POST-PRODUCTION<sup>(16)</sup>

In general, TPB indicates that persuasive communication should be directed to specific beliefs that affect behavioral intention, aiming to motivate and positively reinforce the execution of behavior. Thus, in the pre-production phase, persuasive textual communication was elaborated, based on behavioral, normative and control beliefs related to behavior, which were analyzed and published in a previous study<sup>(17)</sup>.

It is recommended to use accurate and relevant information that can aggregate and/or influence changes in beliefs that promote the target behavior<sup>(10)</sup>. Thus, one chose to use the term "salt" because it is easily understood by the target audience and is the main source in which the sodium used to prepare the diet is found. In addition, consultations were conducted on directives<sup>(5)</sup>, guidelines<sup>(6)</sup> and the scientific literature<sup>(18)</sup> on educational guidelines for reducing sodium consumption. From the consideration of these aspects, the elicited beliefs<sup>(17)</sup> and the proposed guidelines for the elaboration of persuasive

communications in line with the adopted theoretical framework<sup>(9-10)</sup>, the script was made.

Scientific meetings were held in the Chronic Diseases Research Group with the participation of three nurses with clinical experience in cardiovascular nursing, and three clinical psychologists with experience in TPB and in studies related to persuasive communication were heard to analyze the persuasiveness of the writing material and allow its refinement. Following the meetings with the group members, aspects of the narration and audiovisual elements that would be used in persuasive communication concluded the Storyboard.

The video production stage was intended for recording the scenes described by the Storyboard<sup>(16)</sup> and had the collaboration of a professional in the field of digital media to make the illustrations, design and layout. The screens were produced using the Adobe Photoshop<sup>®</sup>. On the other hand, the program and the narration were made by a journalist with voice-over experience, using language consistent with the script previously prepared.

The video post-production was carried out by the responsible researcher and the digital media professional, with the help of the Adobe Premiere<sup>®</sup> program. In this step, the screens and animations were edited using Adobe After Effects<sup>®</sup>. The soundtrack, in the public domain, was made available by the YouTube audio library channel, using the sound effects: Natural and White Hats. In this phase, a meeting with the members of the research group allowed to guide final adjustments before the validation stage.

## 2<sup>ND</sup> STAGE: CONTENT VALIDATION

After structuring, the persuasive audiovisual communication was submitted to content validation by a multiprofessional health team and technical professionals in the communication area. It was decided to choose a multidisciplinary team in line with the recommendations of the Brazilian Society of Cardiology so that the monitoring of HF employs a continuous multidisciplinary approach<sup>(5)</sup>. The expert judges were recruited by means of intentional non-probabilistic snowball sampling. Searches were carried out on the Lattes Platform (*Plataforma Lattes* – Brazilian academic CV portal) to select health and communication specialists.

The selection criteria for health professionals were at least being a specialist in the field of cardiology, having two years of experience in caring for patients with HF and publication in the area related to HF or with knowledge in the theoretical methodological framework (TPB). For technical judges, the following were considered: having at least a specialization in the area of communication and one year of experience in the elaboration of audiovisual resources (videos, applications and digital media).

A total of 17 potential experts were identified. Then, invitation letters to participate in the study were sent. After the invitation, eleven professionals agreed to

participate in the validation stage, eight of them in the health area and three in communication. After that, the following documents were sent by email: the two-way Informed Consent Form (ICF), the video version and the data collection instrument. It contained information about the purpose of the study, a brief description of the theoretical and methodological framework that underpinned the construction of the material, and an evaluation form for persuasive audiovisual communication. The return of the material was requested within 20 days, being extended for another 15 to 30 days, according to the judge's request.

The evaluation form constructed by the researcher contained evaluation items of the audiovisual resource that covered: content and language for the target audience of the communication, illustrations, figures, narration, duration and persuasive potential. The items were answered using a four-point Likert scale, being 1 = Totally disagree; 2 = disagree; 3 = agree; 4 = totally agree. At the end of the evaluation, a space was allocated for suggestions, criticisms and general opinion about the video.

## DATA ANALYSIS AND TREATMENT

To analyze the results of the validation by the expert judges, the Content Validity Index (CVI) was used, through the agreement of the items individually (Item-Level Content Validity Index I-CVI), expressed by the formula: number of experts who evaluated items with grades 3 or 4, divided by the total number of judges. To classify the item as valid, a value equal to or greater than 0.90 is necessary<sup>(19)</sup>. The evaluated criteria that obtained CVI < 0.90 were reformulated based on the suggestion of experts and scientific literature. To evaluate the audiovisual resource as a whole, the agreement criterion was used, which was obtained by dividing the total number of items considered valid by the judges by the total number of items. The video was considered validated when agreement of at least 90% was obtained<sup>(19)</sup>.

The information obtained about the participating professionals and the answers were organized in the Excel for Windows software, followed by a descriptive analysis, with calculation of absolute and relative frequencies, in addition to measures of central tendency (mean) and dispersion (standard deviation).

## ETHICAL ASPECTS

This study is part of the research entitled: "Effect of persuasive intervention on the behavioral intention to reduce salt consumption in patients with heart failure", approved by the Research Ethics Committee under No. 2.406.616/2017.

## RESULTS

The arguments developed to model the TPB constructs and their respective beliefs are presented in Chart 1.

**Chart 1** – Arguments based on the beliefs of people with HF related to reducing salt intake in the diet – João Pessoa, PB, Brazil, 2018.

Construct	Outstanding beliefs	Motivational arguments
Attitude toward the behavior	Behavioral beliefs	<ul style="list-style-type: none"> <li>- Importance of reducing salt consumption in the diet to maintain health and quality of life</li> <li>- Association of excessive salt consumption with worsening heart failure symptomatology</li> <li>- Adjust to the new imperative habits of diet therapy</li> <li>- Adaptation to the palatability of low-salt food.</li> </ul>
	<ul style="list-style-type: none"> <li>-Keep health</li> <li>-Avoid worsening of symptoms</li> <li>-Reduce appetite</li> <li>-Changing the taste of food</li> <li>-Habit in using salt</li> </ul>	
Subjective norm	Normative beliefs	<ul style="list-style-type: none"> <li>- Importance of the family in choosing and preparing low-salt food</li> <li>- The construction of a support network to strengthen and motivate adherence to the prescribed diet</li> </ul>
	<ul style="list-style-type: none"> <li>-Spouse</li> <li>-Children</li> <li>-Siblings</li> </ul>	
Perceived behavioral control	Control beliefs	<ul style="list-style-type: none"> <li>- Strategies to facilitate salt replacement</li> <li>- Strategies to enhance the taste of the diet and improve palatability</li> <li>- Guide the person responsible for preparing meals to reduce the amount of salt</li> <li>- Reinforcement for the ability to follow a low salt diet</li> </ul>
	<ul style="list-style-type: none"> <li>-Preparation of meals by the wife</li> <li>-Preparing meals separately</li> <li>-Family helps to remember</li> <li>-Loss of the taste of the diet</li> <li>-Lack of control in the preparation of meals</li> </ul>	

Source: Elaborated by the authors.

The script included an institutional presentation, definition of HF, information on epidemiological data, main signs and symptoms of HF, persuasive communications highlighting the advantages of reducing salt consumption and the consequences of its excessive intake, the importance of social referents as support agents to follow a low salt diet, measures that can facilitate salt reduction, guidelines for salt replacement and, finally, motivational messages for adoption and the ability to follow a low salt diet.

Eight expert judges with at least two years of care experience in the study area participated in the content validation stage, six women and two men, with a mean age of 42.8 years old, standard deviation of 11.8 and range from 29 to 60 years old. Five judges had PhD in the health area, two were specialists in cardiology and one master in education. As for professional training, five were nurses, two cardiologists and one nutritionist.

Regarding technical specialists, audiovisual communication professionals, the three selected were men, with a mean age of 33.6 years old, standard deviation of 6.6 years and range from 26 to 38 years old. Two participants were masters and acted as higher education professors in the field of Digital Media, and one was a specialist in communication and marketing who worked in an advertising agency.

Regarding the evaluation of the judges, among the evaluation criteria, none indicated the answer “totally disagree”. In questions related to content for the target audience, language, harmony, illustrations, narration, persuasion strategy and care technology for health professionals, there is unanimous agreement among experts, as shown in Table 1.

**Table 1** – Agreement among experts on the content of persuasive communication – João Pessoa, PB, Brazil, 2018.

Evaluated criteria	I-CVI*
1. The content is appropriate for the target audience	1.00
2. The language is easy to understand	1.00
3. The colors and shapes of the illustrations are adequate	0.90
4. The layout of the figures has harmony with the text	1.00
5. The illustrations are relevant to understand the content	1.00
6. The narration is proper for the content	1.00
7. Communication is persuasively expressed	0.90
8. The duration time is satisfactory	0.90
9. Communication contributes as a persuasive strategy for changing protective beliefs and behaviors	1.00
10. It can be used as a care technology by health professionals	1.00

\*Item-Level Content Validity Index

It can be observed that there was no unanimity in the categories regarding the colors and shapes of the illustrations, the duration time and persuasion. Although the agreement index for the items was satisfactory, the researchers considered pertinent the suggestion and minor adjustments were made to the screens to improve

the material. One opted to answer a judge's argument about changing the red background color on two screens and an adaptation in the illustration that simulated the preparation of the meal by the wife. Thus, the video was developed with 42 screens. Figure 1 illustrates some of the screens produced.



**Figure 1** – Summary of the screens produced for the audiovisual resource – João Pessoa, PB, Brazil, 2018.

Only one judge pointed out that the communication was not expressed in a persuasive manner, assigning the score “disagree” in the evaluation using the Likert scale. However, the judge did not indicate which points should be adjusted, and that is why it was not possible to weigh their assessment in the perspective of adjustments. It is believed that this result may have occurred due to misunderstandings about the strategy of persuasion and/or theoretical framework.

Regarding the length of the video, it is worth noting that, in the post-production stage, it was found that the narration needed periods of more defined pauses for better understanding and fluidity of persuasive communication. Thus, the initial version of the video, which totaled two minutes and fifty seconds, was extended to three minutes and eleven seconds, in order to better meet the characteristics of the target population.

The results related to duration show sufficient CVI ( $\geq 0.90$ ). However, a judge in the health area suggested reducing the video time, a suggestion that was not accepted due to not being part of the recommendations of the other judges and also due to the possibility of weaken communication by suppressing information relevant to the context. Furthermore, the characteristics inherent to the target population of the study (low education and older adults) are highlighted, which require care in issuing communications in rhythm and clarity conducive to the cognitive, visual and auditory conditions resulting from the aging process.

Another judge, a technician in digital media, argued that for reproduction on other platforms (television), the video should be reduced. However, the suggestion was not accepted due to the fact that the objective is for the content to be disseminated online and in health services as one of the strategies to favor therapeutic adherence and, in this sense,

priority was given to ensuring its clarity at a pace best suited to the target audience.

The replacement of the animations built to present the signs and symptoms of HF by images of real people with clinical decompensation was suggested by a technical in digital media judge, believing they have greater persuasiveness.

In general, the audiovisual resource showed unanimity between content specialists and technicians regarding the clarity and relevance of the material, being considered adequate to be used as an adjuvant care technology in the clinical care practice of health professionals, especially nurses, in the management of HF. In view of the good results obtained from the content validation, there was only one evaluation cycle by the specialists, with 97% agreement. The final version of the persuasive communication can be accessed on YouTube® on the channel of the Care Technologies Laboratory linked to the *Universidade Federal da Paraíba*, available at the following link: <https://youtu.be/GNqfSrgdX4I>.

## DISCUSSION

The development of Information and Communication Technologies (ICTs) in the field of nursing has grown over the past decades, contributing to the improvement of knowledge and skills in the teaching-learning process, in addition to becoming tools to assist the work process of nurses, without geographical boundaries<sup>(20)</sup>.

Audiovisual resources are technological tools used to foster information, reflections, through dynamic and interactive messages, encouraging changes in beliefs, habits and behaviors that are harmful to health<sup>(21)</sup>. A review study identified that, among the functionalities of audiovisual resources, the motivating function allows a group to reflect on a topic, arousing greater interest for discussions. The

authors emphasize that the use of images and sound should be explored as a means to exemplify attitudinal situations, with the purpose of adopting new and satisfactory behavioral patterns<sup>(22)</sup>.

Considering the above, the audiovisual resource developed in this study was evaluated by health professionals, including specialists in the field of cardiology, as well as by professionals trained in digital media. In this research, by means of criteria of clarity for the target audience, language, harmony, illustrations and relevance of the content, the experts considered the video adequate for application as a technology aimed at the care of patients with HF.

In the construction of audiovisual resources, it is recommended not to use vibrant colors<sup>(23)</sup>. Thus, to improve the aesthetic aspects and give greater textual visibility, the colors red at the bottom of a screen, and yellow of a text were replaced, using cool colors and pastels tones that convey lightness, well-being and subtlety to the images.

Regarding the belief in the control of meal preparation by the wife, it was suggested that it should not be linked only to a wife, but to any person responsible for the preparation in the family environment (spouse, children, caregivers, housekeeper). Thus, the researchers chose to use a neutral icon that did not characterize a specific gender in the preparation of meals.

A research carried out in the United States of America, anchored in TPB, showed the subjective norm (perceived social pressure) as a predictor of a low sodium diet in people with HF ( $p = 0.032$ ). The authors recommend that health professionals clearly express their opinion about following the diet, supporting and motivating people with HF to reduce the consumption of dietary sodium, in order to avoid exacerbation of the disease<sup>(24)</sup>. Therefore, the need to include social referents in the educational strategies regarding the choice/replacement of adequate food for the preparation of low-salt diet is reinforced, so that they can be configured as positive links in the motivation for behavior adherence.

In the audio used, it was decided not to use a language with technical terms, as well as popular expressions. One opted for a voiceover with a language that is easy to understand, compatible with the level of education of the target audience, paused, with soft intonation and in accordance with the textual communication developed during pre-production. Another resource used was the soundtrack subdivided for moments of information about HF and motivational for positive reinforcement. The soundtrack had a pleasant, alert and approving melody.

The communication judges, with experience in digital media, presented statements aligned to health professionals, when considering the video with a language adequate for the target audience, comprehensive, with satisfactory layout, animations, illustrations, dynamism and duration.

Regarding this aspect, the literature suggests that the video has a simple language, helping to capture the viewer's attention, making the content clear and objective, capable of reaching the target audience and sensitizing social groups to influence attitudes and desired behaviors<sup>(25-26)</sup>.

Regarding persuasiveness, only one judge argued that the video did not have this characteristic, with the justification of using real images of people in clinical decompensation situations for this purpose. However, this suggestion was not accepted, considering that the video aims to motivate in a playful way the reduction of salt consumption in the diet, through positive reinforcements and not to use the media resource developed as a mechanism to awaken or strengthen fear or insecurity.

Therefore, it is understood that positive communication can strengthen and support the favorable intention to carry out the behavior, avoiding situations of aversion to the content, scenes and arguments used in negative messages. Thus, it highlights the relevance of persuasive communication as a tool to influence behavioral intentions for decision making, modeling negative beliefs, which offer health risk, into positive ones.

In the video length criterion, one judge argued that it could be reduced for presentation. After reflections, it was decided not to reduce it, considering that three minutes and eleven seconds is acceptable for exposure of the content and it is within the recommended in the context of health. It is advisable that videos directed to health promotion with a focus on changing behaviors do not exceed 20 minutes, so as not to generate dispersion and lack of interest in information<sup>(21)</sup>.

Thus, it is believed that the duration is satisfactory and its reduction could weaken the elaborated communication, removing aspects relevant to behavioral influence and understanding of the theme. In addition, the video was made for application in health services with the purpose of clarifying doubts and motivating the target audience for self-care. Besides that, it will be available online or can be sent via an application to people with HF. Therefore, the playing time is compatible with the application contexts for which it is intended.

It is relevant to highlight that studies that used audiovisual resources as care technology in different contexts of cardiovascular diseases, showed positive results. As an example, a research that verified the effectiveness of using audiovisual resources for preoperative myocardial revascularization guidance on knowledge related to the surgical procedure, when compared to the usual guidance, found that the intervention group had  $7.20 \pm 1.56$  correct answers, while the control group had an average of  $2.71 \pm 1.96$  correct answers, with a statistically significant difference ( $p < 0.001$ ). The results led the researchers to conclude that guidelines provided with audiovisual resources are more effective for knowledge, when compared to verbal guidelines<sup>(27)</sup>.

Studies on the development of audiovisual technology have added content validation with specialists, in order to produce a useful tool, easy to apply, adequate and comprehensive for the target audience<sup>(21,25,28)</sup>. Thus, as in this research, this step allowed the aggregation of a wide variety of knowledge and higher quality in the material produced, collaborating to achieve the proposed objective.

Thus, it is believed that, for nursing practice, this technological product will serve as an additional resource in order

to motivate the adoption of protective health behaviors in a dynamic and playful way, contributing to the formation of new beliefs and modulation of negative beliefs into positive ones, in a reflexive way.

It is noteworthy that the development and applicability of this audiovisual resource are in line with the actions proposed in the Coping Plan for Chronic Disease Control, especially cardiovascular diseases, in the health promotion axis, which consists of promoting educational strategies to reduce salt added in the preparation of meals and the choice of products for consumption with lower sodium content<sup>(29)</sup>.

As a possible limitation of this study, the absence of content validation of the audiovisual resource with the target population is pointed out. However, the content of the communication emerged from the beliefs issued by representatives of this population and there was a concern to add to the resource language compatible with the results obtained in the survey of beliefs<sup>(17)</sup>. Thus, the development of the technological product had its development supported by theoretical and empirical knowledge, incorporating theoretical framework conducive to the object of investigation, contribution of specialists from different areas of training/performance and behavioral, normative and control beliefs about behavior of the target population.

It is emphasized that the next stage of this research aims to evaluate the applicability and acceptability of the

persuasive communication as an intervention strategy in clinical practice through a pilot, quasi-experimental study, with the objective of modulating the determinants of behavioral intention related to the reduction of salt consumption in people with HF.

It is suggested that future research can be developed in other scenarios in the country, due to the cultural diversity of food, in order to raise new beliefs or expand the aspects contemplated in this study. Considering that the arguments selected for the production of the video were built based on in the beliefs of the regional reality, they may not express the beliefs and eating habits of other areas.

In addition, it is recommended to build new media that include the other aspects linked to the pharmacological and non-pharmacological management of HF to promote self-care to achieve and maintain the clinical stability of the disease.

## CONCLUSION

The Persuasive, short, audiovisual communication, aimed at reducing the consumption of salt in the diet of people with HF, was considered valid in terms of content by specialists in the field of cardiology and communication. The video has a duration of three minutes and eleven seconds, consisting of 42 screens, it is available online and free. Thus, it is expected that, in an attractive and dynamic way, it can be used as a motivational adjunct tool in the clinical practice of nurses in the care of people with HF.

## RESUMO

**Objetivo:** Construir e validar o conteúdo de comunicação persuasiva audiovisual, para reduzir o consumo de sal na dieta de pessoas com insuficiência cardíaca. **Método:** Estudo metodológico, de natureza tecnológica, ancorado na Teoria do Comportamento Planejado, no qual foram seguidas as etapas de pré-produção, produção e pós-produção. Realizou-se validação de conteúdo com especialistas na área da saúde e comunicação. **Resultados:** Com base no levantamento de crenças relacionadas à redução de sal, o vídeo dispõe de 42 telas, três minutos e onze segundos de duração e contém animações e argumentos motivacionais com o objetivo de influenciar positivamente a intenção comportamental e modelar crenças negativas em positivas. Na validação de conteúdo, os juízes concordaram, em unanimidade, com os critérios de avaliação para o público-alvo, linguagem, harmonia, ilustrações, narração e estratégia de persuasão. O Índice de Validade de Conteúdo mostrou-se satisfatório com concordância de 97%. **Conclusão:** A comunicação persuasiva, no formato audiovisual, foi considerada válida quanto ao conteúdo, tornando-se uma ferramenta para potencializar a redução do consumo de sal no cuidado de pessoas com insuficiência cardíaca.

## DESCRITORES

Comunicação Persuasiva; Insuficiência Cardíaca; Dieta Hipossódica; Mídia Audiovisual; Teoria Social; Comportamento.

## RESUMEN

**Objetivo:** Construir y validar el contenido de la comunicación audiovisual persuasiva para reducir el consumo de sal en la dieta de personas con insuficiencia cardíaca. **Método:** Se trata de un estudio metodológico, de carácter tecnológico, basado en la Teoría del Comportamiento Planificado, en el que se siguieron las etapas de preproducción, producción y postproducción. La validación del contenido se realizó con especialistas en el área de la salud y la comunicación. **Resultados:** Basado en la encuesta sobre las creencias relacionadas con la reducción de la sal, el vídeo tiene 42 pantallas, tres minutos y once segundos de duración, con animaciones y argumentos motivacionales que pretenden influir positivamente en la intención del comportamiento y transformar las creencias negativas en positivas. En la validación del contenido, los jueces estuvieron unánimemente de acuerdo con los criterios de evaluación del público objetivo, el lenguaje, la armonía, las ilustraciones, la narración y la estrategia de persuasión. El índice de Validez del Contenido resultó satisfactorio con un 97% de concordancia. **Conclusión:** La comunicación persuasiva, en formato audiovisual, se consideró válida respecto al contenido, convirtiéndose en una herramienta para potenciar la reducción de la ingesta de sal en el cuidado de personas con insuficiencia cardíaca.

## DESCRIPTORES

Comunicación Persuasiva; Insuficiencia Cardíaca; Dieta Hiposódica; Medios Audiovisuales; Teoría Social; Conducta.

## REFERENCES

1. Groenewegen A, Rutten FH, Mosterd A, Hoes AW. Epidemiology of heart failure. *Eur J Heart Fail.* 2020;22(8):1342-56. <https://doi.org/10.1002/ejhf.1858>

2. Barilli SL, d'Almeida KS, Trojahn MM, Souza GC, Aliti GB, Rabelo-Silva ER. Knowledge, barriers and attitudes toward dietary sodium in patients with decompensated heart failure. *J Nurs Educ Pract*. 2018;8(1):98-106. <https://doi.org/10.5430/jnep.v8n1p98>
3. Song EK, Moser DK, Kang SM, Lennie TA. Self-reported adherence to a low-sodium diet and health outcomes in patients with heart failure. *J Cardiovasc Nurs*. 2016;31(6):529-534. <https://doi.org/10.1097/JCN.0000000000000287>
4. Colin-Ramirez E, McAlister FA, Woo E, Wong N, Ezekowitz JA. Association between self-reported adherence to a low-sodium diet and dietary habits related to sodium intake in heart failure patients [Internet]. *J Cardiovasc Nurs*. 2015;30(1):58-65. <https://doi.org/10.1097/JCN.0000000000000124>
5. Rohde LE, Montera MW, Bocchi EA, Clausell NO, Albuquerque DC, Rassi S, et al. Diretriz brasileira de insuficiência cardíaca crônica e aguda. *Arq Bras Cardiol*. 2018;111(3):436-539. <https://doi.org/10.5935/abc.20180190>
6. Ponikowski P, Voors AA, Anker SD, Bueno H, Cleland JG, Coats AJ, et al. 2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *Eur J Heart Fail*. 2016;18(8):891-975. <https://doi.org/10.1002/ehf.592>
7. Chan A, Kinsman L, Elmer S, Khanam M. An integrative review: adherence barriers to a low salt diet in culturally diverse heart failure adults [Internet]. *Aust J Adv Nurs*. 2018 [cited 2020 Jan 10];36(1):37-47. Available from: <http://www.ajan.com.au/Vol36/Issue1/4Chan.pdf>
8. Albuquerque DC, Souza Neto JD, Bacal F, Rohde LE, Bernardes-Pereira S, Berwanger O, et al. I Brazilian Registry of Heart Failure: clinical aspects, care quality and hospitalization outcomes. *Arq Bras Cardiol*. 2015;104(6):433-42. <https://doi.org/10.5935/abc.20150031>
9. Ajzen I. Behavioral interventions based on the theory of planned behavior [Internet]. 2019 [cited 2020 Dec 6]. Available from: <https://people.umass.edu/aizen/pdf/tpb.intervention.pdf>
10. Fishbein M, Ajzen I. Predicting and changing behavior: the reasoned action approach. New York: Routledge; 2015.
11. Norman P, Cameron D, Epton T, Webb TL, Harris PR, Millings A, et al. A randomized controlled trial of a brief online intervention to reduce alcohol consumption in new university students: combining self-affirmation, theory of planned behaviour messages, and implementation intentions. *Br J Health Psychol*. 2018;23(1):108-27. <https://doi.org/10.1111/bjhp.12277>
12. Shafieinia M, Hidarnia A, Kazemnejad A, Rajabi R. Effects of a theory based intervention on physical activity among female employees: a quasi-experimental study. *Asian J Sports Med*. 2016;7(2): e31534. <https://doi.org/10.5812/asjms.31534>
13. Park J, Kim SH, Kim JG. Effects of message framing and health literacy on intention to perform diabetes self-care: a randomized controlled trial. *Diabetes Res Clin Pract*. 2020;161:108043. <https://doi.org/10.1016/j.diabres.2020.108043>
14. Heo S, Moser DK, Lennie TA, Payne-Emerson H, Welch JL, Weaver M. Development and testing of the feasibility and acceptability of a tailored dietary intervention in patients with heart failure. *J Cardiovasc Nurs*. 2015;30(3):213-21. <https://doi.org/10.1097/JCN.0000000000000148>
15. Welsh D, Lennie TA, Marcinek R, Biddle MJ, Abshire D, Bentley B, et al. Low-sodium diet self-management intervention in heart failure: pilot study results. *Eur J Cardiovasc Nurs*. 2013;12(1):87-95. <https://doi.org/10.1177/1474515111435604>
16. Fleming SE, Reynolds J, Wallace B. Lights... camera... action! a guide for creating a DVD/video. *Nurse Educ*. 2009;34(3):118-21. <https://doi.org/10.1097/NNE.0b013e3181a0270e>
17. Sousa MM, Gouveia BLA, Almeida TFC, Freire MLM, Oliveira SHS. Beliefs of people with salt-related heart failure. *Rev Enferm UERJ*. 2019;(27): e44197. <https://doi.org/10.12957/reuerj.2019.44197>
18. Welsh D, Marcinek R, Abshire D, Lennie TA, Biddle M, Bentley B, et al. Theory-based low-sodium diet education for heart failure patients. *Home Healthc Nurse*. 2010;28(7):432-41. <https://doi.org/10.1097/NHH.0b013e3181e324e0>
19. Oliveira F, Kuznier TP, Souza CC, Chianca TC. Theoretical and methodological aspects for the cultural adaptation and validation of instruments in nursing. *Texto Contexto Enferm*. 2018;27(2):e4900016. <https://doi.org/10.1590/0104-070720180004900016>
20. Pereira FG, Silva DV, Sousa LM, Frota NM. Building a digital application for teaching vital signs. *Rev Gaúcha Enferm*. 2016;37(2):e59015. <https://doi.org/10.1590/1983-1447.2016.02.59015>
21. Lima MB, Rebouças CB, Castro RC, Cipriano MA, Cardoso MV, Almeida PC. Construction and validation of educational video for the guidance of parents of children regarding clean intermittent catheterization. *Rev Esc Enferm USP*. 2017;51:e03273. <https://doi.org/10.1590/s1980-220x2016005603273>
22. Sarabia AA, Niño GT, León BDLP, Ortega MI, Knopfler SC, Felipe LM, et al. Audiovisual Aids in nursing education: literature review. *Enferm Glob*. 2017;16(47):512-38. <https://doi.org/10.6018/eglobal.16.3.260621>
23. Razera AP, Trettene AS, Mondini CC, Cintra FM, Razera FP, Tabaquim ML. Construction of an educational video on postoperative care for cheiloplasty and palatoplasty. *Texto Contexto Enferm*. 2019;28:e20180301. <https://doi.org/10.1590/1980-265x-tce-2018-0301>
24. Wu JR, Lennie TA, Dunbar SB, Pressler SJ, Moser DK. Does the Theory of Planned Behavior predict dietary sodium intake in patients with heart failure? *West J Nurs Res*. 2017;39(4):568-81. <https://doi.org/10.1177/0193945916672661>
25. Galindo-Neto NM, Alexandre AC, Barros LM, Sá GG, Carvalho KM, Caetano JA. Creation and validation of an educational video for deaf people about cardiopulmonary resuscitation. *Rev Latino-Am Enfermagem*. 2019;27:e3130. <https://doi.org/10.1590/1518-8345.2765.3130>
26. Silva JP, Bernardi FA, Franzon JC, Orlandin L, Ferlin GZ, Pereira Júnior GA. Step-by-step insulin application: making educational videos for patients and caregivers. *Esc Anna Nery*. 2021;25(1):e20190343. <https://doi.org/10.1590/2177-9465-ean-2019-0343>
27. Oliveira AP, Souza EN, Pellanda LC. Effectiveness of video resources in nursing orientation before cardiac heart surgery. *Rev Assoc Med Bras*. 2016;62(8):762-7. <https://doi.org/10.1590/1806-9282.62.08.762>
28. Interaminense IN, Oliveira SC, Linhares FM, Guedes TG, Ramos VP, Pontes CM. Construction and validation of an educational video for human papillomavirus vaccination. *Rev Bras Enferm*. 2020;73(4):e20180900. <https://doi.org/10.1590/0034-7167-2018-0900>
29. Malta DC, Silva Junior JB. [Brazilian Strategic Action Plan to combat chronic non-communicable diseases and the global targets set to confront these diseases by 2025: a review]. *Epidemiol Serv Saude*. 2013;22(1):151-64. Portuguese. <https://doi.org/10.5123/S1679-49742013000100016>

