ree

ORIGINAL ARTICLE

Health vulnerability assessment questionnaire for people with heart failure: construction and validation

Questionário de avaliação da vulnerabilidade em saúde da pessoa com insuficiência cardíaca: construção e validação

Virna Ribeiro Feitosa Cestari[1], Raquel Sampaio Florêncio[1], Vera Lúcia Mendes de Paula Pessoa[1], Thereza Maria Magalhães Moreira[1]

ABSTRACT

Objective: To construct and validate an instrument to assess the health vulnerability of people with heart failure. **Method:** Methodological study, consisting of an identification phase of vulnerability markers in the health of people with heart failure and another phase of instrument development and validation of its content by specialists. To analyze the content validity and agreement between the specialists, the Content Validity Index and Binomial Test were calculated, respectively. **Results:** The instrument consisted of three dimensions, broken down into 110 items, with excellent content validation rates (≥0.78) and p>0.05. The total validation index was 0.99. **Conclusion:** The items enabled the operationalization of the phenomenon of interest and the values obtained in the statistical analysis ensured the validity and reliability of the instrument for the external validation phase.

Descriptors: Heart Failure; Health Vulnerability; Psychometrics; Validation Study; Nursing Care.

RESUMO

Objetivo: Construir e validar um instrumento para avaliação da vulnerabilidade em saúde da pessoa com insuficiência cardíaca. **Método:** Estudo metodológico, constituído de uma fase de identificação dos marcadores da vulnerabilidade em saúde da pessoa com insuficiência cardíaca e outra de desenvolvimento do instrumento e validação de seu conteúdo por especialistas. Para análise da validade de conteúdo e da concordância entre especialistas, calculou-se o Índice de Validade de Conteúdo e Teste Binomial, respectivamente. **Resultados:** O instrumento foi composto por três dimensões, desmembradas em 110 itens, com excelentes índices de validação de conteúdo (≥0,78) e p>0,05. O índice de validação total foi de 0,99. **Conclusão:** Os itens permitiram a operacionalização do fenômeno de interesse e os valores obtidos na análise estatística garantiram a validade e confiabilidade do instrumento para a fase de validação externa.

Descritores: Insuficiência Cardíaca; Vulnerabilidade em Saúde; Psicometria; Estudo de Validação; Cuidados de Enfermagem.

[1]Universidade Estadual do Ceará (UECE) – Fortaleza (CE), Brazil. E-mails: virna.ribeiro@hotmail.com, raquelsampy@hotmail.com, pessoa_vera@hotmail.com, tmmmoreira@gmail.com

How to cite this article: Cestari VRF, Florência RS, Pessoa VLMP, Moreira TMMM. Health vulnerability assessment questionnaire for people with heart failure: construction and validation. Rev. Eletr. Enferm. [Internet]. 2021 [cited on: _____];23:67807. Available from: https://doi.org/10.5216/ree.v23. 67807.

Received on: 02/21/2021. Accepted on: 07/28/2021. Available on: 10/15/2021.

INTRODUCTION

Heart failure (HF) is one of the main causes of morbidity and mortality worldwide[1]. Until 2019, the number of HF cases in the United States was 5.3 million. Currently, the estimated number of people with HF aged ≥20 years is 6.2 million[2]. In Brazil, HF affects two million people, with an incidence of 240,000 new cases per year, which has been increasing rapidly due to aging of the population(3).

The chronicity of the disease is intrinsically associated with the vulnerability of people with HF, as it alternates between phases of stability and acute decompensation, characterized by frequent hospital readmissions[4,5]. The impact of HF and its negative interference in people's lives is considerable; people with HF undergo changes in their normal standard of living, as the disease harms both physical and emotional performance, contributing to the reduction or worsening of life expectancy and quality of life[6]. Thus, living with HF requires changes in physical, mental, social, and spiritual attitudes, as, in addition to the complications caused by the disease, its treatment demands the understanding and collaboration of the affected individual, family members, professionals, and health services.

Thus, vulnerability is an important concept to nursing research in all areas, as it is intrinsically linked to health and health problems, and characterizes care as an interactive process, which is revealed in relationships with others. The concern with the uniqueness of the being in a situation of vulnerability can be seen in the 2015-2017 edition of the North American Nursing Diagnosis Association (NANDA) International Taxonomy[5], in which the current risk diagnoses were modified to eliminate the word "risk" from the definition, to be replaced by the word "vulnerability", understood as the condition of human life expressed in all contexts that permeate the being(6).

Specifically in the area of HF, the instruments published only involve specific aspects, such as medication adherence[7], self-care[8], knowledge assessment[9], quality of life[10], and disease symptoms[11]. There is no record in the literature of an instrument to assess health vulnerability for patients with HF, which is indicative of a gap in the knowledge.

Thus, to understand HF patients who experience vulnerability, and contribute to their comprehensive and multidimensional clinical care, it is necessary to develop a specific instrument to assess the health vulnerability of patients with HF, focusing on relevant domains of this disease. This may facilitate the detection of aspects involved in this complex, chronic condition, in addition to helping nurses and other health professionals plan healthcare actions. Thus, the aim of this study was to construct and validate an instrument to assess the health vulnerability of people with HF.

METHOD

Type of study

This is a methodological study, which adopted psychometric procedures as a reference for the development of measurement instruments, which include three specific poles (theoretical, empirical and analytical)[12]. The study was restricted to the theoretical pole, consisting of two phases:

1. Theoretical: identification of health vulnerability markers of people with HF; and
2. Construction: instrument development and content validation by specialists, in October 2017.

Population

The choice of specialists was made by accessing and searching the national Lattes Platform as follows: after accessing the Plataforma Lattes website, in the "Curriculum Lattes" window, the "Search" option was chosen in the "Search Lattes CVs". The first step was to choose the search mode, clicking on the box "Subject" and writing "Insuficiência cardíaca" (Heart failure), "Questionários" (Questionnaires) and "Vulnerabilidade em saúde" (Health vulnerability). Filters were then applied to the results for "Professional performance", and selection made from the broader area of "Health Sciences". The choice was made not to select a specific area, as it is understood that the complexity of HF demands knowledge from different professionals who work at different levels of health care.

For the selection of the specialists, a number from six to twenty is recommended in the validation process[13]. The specialists who met the following criteria were part of the content validation: having a body of specialized knowledge or skill; extensive experience in the specific field of practice; highly developed levels for pattern recognition and expert quality recognized by others(14).

The selected specialists were invited to participate in the study. Upon agreement, an invitation letter was sent, via e-mail, explaining the objective of the study, method, and role of the specialist in the research. After acceptance, an Informed Consent Form (ICF), instructions, and instrument for content validation were sent by email.

Data collection

Initially, an integrative review was carried out to identify HF markers and thus elucidate the construct. The review was developed in the stages proposed by Mendes, Silveira, and Galvão[15], using the Literatura Latino-Americana e do Caribe em Ciências da Saúde (LILACS) and Índice Bibliográfico

Espanhol de Ciências da Saúde (IBECS) databases, via Biblioteca Virtual da Saúde and Scientific Electronic Library Online (SciELO); and the Cumulative Index to Nursing and Allied Health Literature (CINAHL), Scopus, and the PubMed portal, via the National Library of Medicine.

The paired search of articles was performed in January 2017, using the descriptors heart failure and health vulnerability, according to the Medical Subject Headings (MeSH) terminology, and the keyword vulnerability, in order to expand the findings. To systematize the searches, the following equation was created: ((heart failure[MeSHTerms]) AND (health vulnerability[MeSH Terms]) OR (vulnerability)).

Open-access studies that enabled the identification of vulnerability markers of people with HF, published from January 2012 to January 2017, were included. Theses, dissertations, prior communication, review or reflection articles, editorials, letters to the editor, and studies published in event proceedings were excluded. The established time frame was chosen based on the launch of the *Diretriz Brasileira de Insuficiência Cardíaca Crônica* (Brazilian Guidelines on Chronic Heart Failure), in January 2012. The guidelines bring together the main evidence on HF prior to the year of its publication, therefore, the available knowledge on the theme after this period was explored.

In all, 231 studies were carefully analyzed with the aim of clarifying the concept and extracting the markers and their constitutive and operational definitions, already validated by specialists in the field of cardiology and health vulnerability[16], who guided the development of the pilot instrument, with 110 items.

For the isolated assessment of items, the specialists judged consistency in relation to conceptual definitions; representativeness in relation to the domain of interest; relevance to the clinical interpretations that could be made based on its measurement; clarity and possibility of understanding the language[12]. The specialists completed a data collection instrument containing the dimensions, subdimensions, and health vulnerability markers of people with HF, with their respective constitutive and operational definitions. Then, they evaluated the items individually, with space for suggestions. For this purpose, an ordinal four-point categorical scale was used:

1. item is not indicative of the construct;
2. item is not very indicative of the construct;
3. item indicative of the construct; and
4. item very indicative of the construct.

The judges had 15 days to complete this analysis.

Analysis and treatment of data

The Content Validity Index (CVI) was calculated with the aim of analyzing the objectivity of content validity, this being a method that measures the proportion or percentage of judges who are in agreement on certain aspects of the instrument and its items. The index score is calculated from the average of the number of responses of "3" and "4" selected by the specialists. For this research, the CVI of the items (CVIi) was calculated, considering the items with a CVIi greater than or equal to 0.78 to be excellent; and then, the total CVI (CVIt) was calculated, adopting values ≥0.90 as adequate[15]. For the analysis of the items and their adequacy to the psychometric criteria, the arithmetic mean of each criterion was calculated through the sum of the indicator scores, divided by the number of specialists.

To estimate the statistical reliability of the CVIi, the exact binomial distribution test indicated for small samples was performed, with a significance level of $p>0.05$ and an agreement ratio of 0.95. The non-significant binomial indicates the agreement of the scoring of each item by the specialists(17).

Ethical aspects

The present study was approved by the Research Ethics Committee under decision number 1,962,663, in 2017. All standards for research with human persons, present in Resolution 466/12 of the *Conselho Nacional de Saúde do Brasil* (National Health Council of Brazil), were complied with. All those who agreed to participate in the research signed an informed consent form, which guarantees the confidentiality and anonymity of information, in accordance with Resolution 466/2012, of the *Conselho Nacional de Saúde* which deals with research with human persons.

RESULTS

The theoretical foundation for the construction of the items was based on an extensive review of national and international publications and solidified references in the health area, which supported the delineation of the health vulnerability dimensions of people with HF, supported by Heidegerian phenomenology[6]. Thus, the latent trait and its dimensions were elucidated as a multidimensional, contextual, and dynamic phenomenon, intrinsic to human existence, resulting from the interaction between the human person, Co-presences, and Care, which causes health problems or enables the evolution of the individual or collective (Figure 1). When something interferes with these elements, vulnerability emerges. That is, given the occurrence of physical, psychological, or social imbalance, vulnerability levels increase, influencing the well-being of the individual and the collective.

Initially, 110 items were created, considering the behavioral representation of the construct. Of the total, 66 items belonged to the Human Person dimension,

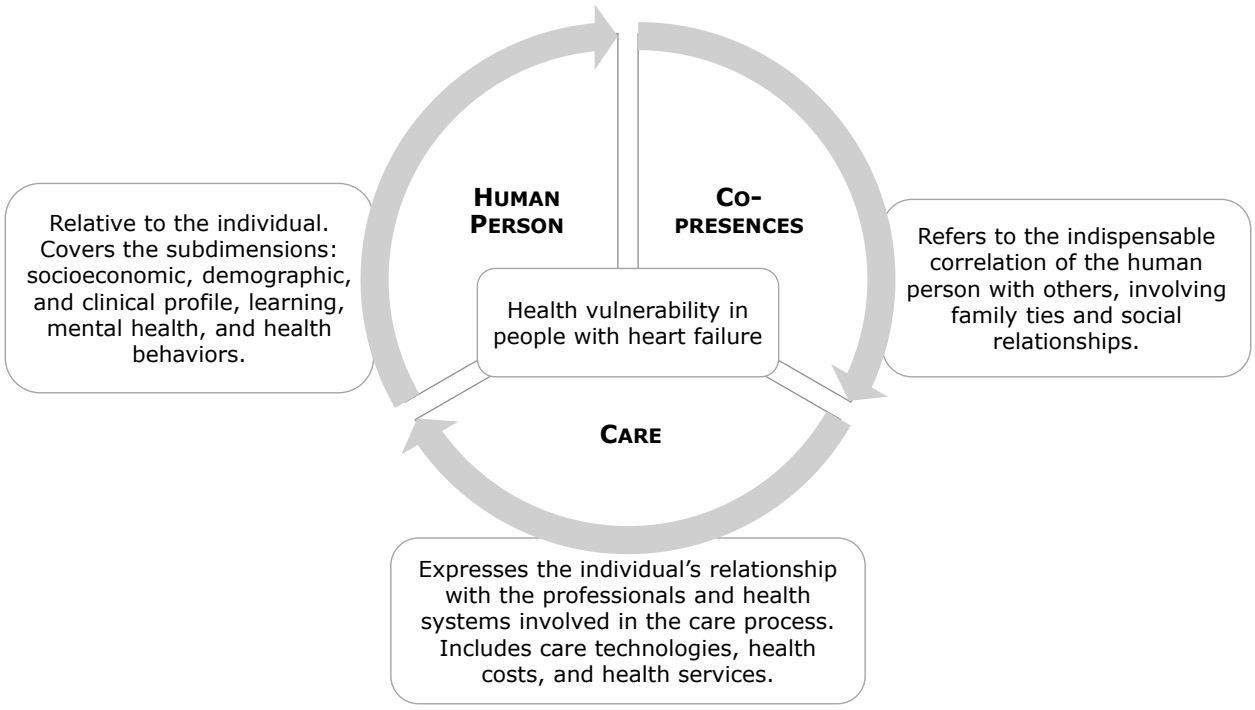

Figure 1. Dimensions of the health vulnerability of people with heart failure. Fortaleza, CE, Brazil, 2017

14 to the Co-presences dimension, and 30 items to the Care dimension.

The content analysis was carried out by 19 specialists (10 assistants and 9 professors), all of whom were health professionals (13 nurses, 3 physical educators, 1 physician, a nutritionist, and a psychologist), with clinical and research experience and publications on the theme (17 with expertise in HF, 1 in vulnerability, and 1 in construction of health instruments), from five Brazilian states (Ceará, Bahia, São Paulo, Rio de Janeiro and Santa Catarina).

In the content validation, all the items had an excellent CVI (≥0.78) and in the binominal test they presented p>0.05, indicating agreement between the judges. The total set of items in each dimension presented CVI ≥0.90, namely, the Human Person dimension (CVI=0.97), Co-presences (CVI=0.95), and Care (VIC=0.99).

In the content analysis process, some specialists requested alterations to the spelling and the joining of items, as well as the replacement of words that are difficult for less educated patients to understand (Chart 1). Most of the specialists' suggestions were accepted, with the aim of greater understanding of the items.

Once the changes requested by the experts were made, the instrument had 110 items, 66 items from the Human Person dimension, 14 items from the Co-presence dimension, and 30 items from Care dimension (Chart 2). In summary, the instrument construction process presented a total CVI of 0.99.

The paths taken to grasp the vulnerability of people with HF demonstrated that health actions must influence practices that impact the life of the human person and their co-presences from a perspective of different directions, in which the human person and co-presences are articulated.

DISCUSSION

The use of validated instruments within strict and scientifically recognized standards enables nurses to access scientific technologies to carry out clinical nursing practice[18]. The process of constructing the instrument of this research occurred so as to enable theoretical development, as it was based on a comprehensive literature review on HF and vulnerability in health.

When developing and validating the HVQ-HF, it was observed that it represents an innovative tool. In this sense, the use of the HVQ-HF can help identify the health needs of people with HF, in addition to directing their proper assessment by the nurse, supporting care and formalizing the assistance provided. The condition of vulnerability materializes in different dimensions. Studying a health issue

Chart 1. Instrument items that underwent changes in the content assessment. Fortaleza, CE, Brazil, 2017.

Item	No changes	With changes
5	Which region of Brazil do you come from?	Which region of Brazil do you live in?
8	Have you needed/Do you need financial adjustment due to heart failure?	Have you needed/Do you need financial assistance because of heart failure?
12	Do you have difficulty following the treatment because you consider it slow?	Do you have difficulty following the treatment?
13	Do you have difficulty following the treatment because you consider it complex?	
14	As for the guidance on the disease received from health professionals, are you able to incorporate them into your daily life?	Can you follow the guidelines about the disease received from health professionals?
15	Have you ever had or do you have decreased general attention?	Have you ever had or do you have decreased concentration?
19	Have you noticed edema in any part of your body (arms, legs, belly)?	Have you noticed swelling in any part of your body (arms, legs, belly)?
22	Do you have impairments associated with few hours of sleep (daytime sleepiness, depression, difficulty concentrating, social isolation, reduced quality of life)?	Do you have problems because of few hours of sleep (sleep during the day, depression, difficulty concentrating, you can't relate to other people, decreased quality of life)?
36	Do you consume fruit and vegetables every day?	How often do you consume fruit? How often do you consume vegetables?
37	Have you reduced your consumption of alcoholic beverages?	Do you drink alcohol?
38	Do you avoid smoking?	Do you smoke?
43	Do you follow the vaccination schedule?	Are your vaccines up to date?
48	Do you take heart failure medications at set times?	Do you take heart failure medications as they are on the prescription?
49	Do you take heart failure medications according to the prescribed dose?	
94	Have you had or are you using mechanical circulatory support (ventricular assist device, extracorporeal membrane circulation, intravascular aortic balloon)?	Have you used or are you using any device that makes your heart work better?
95	Have you ever used or do you use implantable cardiac pacing devices (pacemaker, cardiac defibrillator, cardiac resynchronization therapy)?	

from the perspective of vulnerability is to seek a way to better understand a health problem[19]. Health vulnerability has interconnected and inseparable dimensions, intrinsically linked to health and health problems, which stands out as an important concept for nursing research.

The human person dimension is related to the individual and expresses the understanding of the existence of man as a being in the world[6]. This dimension covered items related to socioeconomic, demographic, and clinical status (functional class, ejection fraction, signs and symptoms, set of symptoms, functional capacity, nutritional status, disease progression. and comorbidities); learning (meaningful learning, cognitive competence, and functional health literacy); mental health (anxiety, depression, personality, self-perception of health, beliefs regarding treatment, spirituality, well-being, gratitude, dispositional optimism, self-efficacy, sense of coherence,

Chart 2. Final version of the Health Vulnerability Questionnaire for people with heart failure. Fortaleza, CE, Brazil, 2017.

Human person	
1)	What is your sex?
2)	How old are you?
3)	What is your race?
4)	What is your nationality?
5)	What region of Brazil do you live in?
6)	What is your level of education?
7)	What is your monthly income?
8)	Have you needed/Do you need financial assistance because of heart failure?
9)	Do you understand the problems affecting your heart?
10)	Do you know the prescribed drugs?
11)	Do you know of other types of treatment besides medication?
12)	Do you have difficulty following the treatment?
13)	Can you follow the guidelines about the disease received from health professionals?
14)	Have you had or do you have decreased concentration?
15)	Have you had or do you have memory problems?
16)	Do you feel tired daily?
17)	Do you have difficulty breathing?
18)	Have you noticed swelling in any part of the body (arms, legs, belly)?
19)	Have you noticed weight gain in the last month?
20)	Do you have difficulty sleeping at night?
21)	Do you have problems due to few hours of sleep (sleep during the day, depression, difficulty concentrating, unable to relate to other people, decreased quality of life)?
22)	Do you have three or more signs and symptoms of the disease at the same time?
23)	Do you have difficulty carrying out your daily activities?
24)	Do you have sexual relations?
25)	Do you have loss of appetite?
26)	Have you lost weight in the last three months?
27)	Have you noticed a worsening of the disease (increased signs and symptoms)?
28)	Do you have other diseases (diabetes, hypertension, kidney failure)?
29)	What is your functional class?
30)	What is your ejection fraction?
31)	With the start of treatment for heart failure, have you started performing physical activity (walking or other exercise) for at least 30 minutes a day, 3 times/week?
32)	Are you drinking less water and other liquids?
33)	Do you follow the guidelines on how to eat correctly, as recommended by a nutritionist or health professional?
34)	Have you decreased salt intake from foods?
35)	How often do you consume fruit?
36)	How often do you consume vegetables?
37)	Do you drink alcohol?
38)	Do you smoke?

Continue...

Chart 2. Continuation.

Human person	
39)	Do you find it difficult to maintain a healthy diet?
40)	Do you routinely follow the heart failure drug treatment?
41)	Do you routinely follow the non-drug heart failure treatment?
42)	Do you regularly check your blood pressure?
43)	Are your vaccines up to date?
44)	Have you decreased your daily consumption of sugar?
45)	Do you eat 5 to 6 meals per day?
46)	Do you weigh yourself daily?
47)	Do you go to scheduled appointments?
48)	Do you take heart failure medications as they are on the prescription?
49)	Do you participate in the planning of your care with health professionals?
50)	Do you carry out the care actions that were planned for you?
51)	Do you perform leisure activities?
52)	Do you recognize your health needs?
53)	Do you believe the medications have an effect?
54)	Do you believe the medications can cause kidney or liver complications?
55)	Do you believe in a higher power?
56)	Do you worry about your health status?
57)	Can you maintain a life purpose and objectives, despite heart failure?
58)	Are you satisfied with your life?
59)	Do you struggle to see events in your daily life as positive?
60)	Do you try to identify the barriers to dealing with heart failure?
61)	Can you identify the limitations caused by heart failure in your life?
62)	Do you look for information about heart failure?
63)	In an emergency, do you feel capable of contacting a medical team by yourself?
64)	Do you notice when you have negative emotions (worry, sensitivity, sadness)?
65)	Do you show signs of anxiety (agitation, irritability, nervousness, distress, tension, and repetitive movements)?
66)	Do you show signs of depression (depressed mood, lack of stimulation, fear, sadness)?
Co-presences	
67)	Are you part of a support group?
68)	Do you participate in activities developed by your community (prayer group, lectures, courses, meetings)?
69)	Do you have someone to listen to your worries?
70)	Do you have someone who provides support to your family and friends?
71)	Do you have someone who helps you deal with stress?
72)	Do you have someone to share joy and sadness with?
73)	Do you have someone who helps you find ways to cope with the disease?
74)	Does a relative accompany you to your appointments?
75)	Can you talk about your problems with your family?
76)	Does your family provide emotional support?

Continue...

Chart 2. Continuation.

Co-presences	
77)	Do you feel accepted by your family?
78)	Can you turn to your family in times of crisis of the disease?
79)	Do your relatives accept your decisions related to the disease?
80)	Do your relatives understand your disease?
Care	
81)	Do you have a good relationship with the health professionals?
82)	Do you believe that the health professional that treats you will do whatever it takes to provide you the care you need?
83)	Do you believe the health professional has the skills and competencies to take care of your health?
84)	Are you cared for by a multidisciplinary team (physician, nurse, nutritionist, psychological, social worker, physiotherapist, dentist)?
85)	Do you feel that the professionals are honest in talking about the different treatment options available for heart failure?
86)	Do you have your own treatment?
87)	Are you visited at home by the multi-professional team?
88)	Are you accompanied at an heart failure clinic?
89)	Do you receive guidance from health professionals about heart failure?
90)	Do you receive palliative care aimed at heart failure?
91)	Have you ever used, or do you use any device that makes your heart work better?
92)	Are you part of any at-home monitoring programs to follow up on heart failure?
93)	Do you receive messages on your cell phone with tips on how to maintain good health?
94)	Do you have access to information on the Internet about heart failure?
95)	Do you need to be hospitalized frequently?
96)	Do you have health insurance?
97)	Do you need to hire professional carers to take care of your health?
98)	Do you need to buy prescription medication?
99)	Do you have the financial conditions to buy healthy foods?
100)	Do you need to pay for transportation to take you to health services?
101)	Is there a healthcare institution in your region?
102)	Does the institution where you are treated facilitate the scheduling of appointments?
103)	Does the institution where you are treated refer you to other institutions, if necessary?
104)	Is it possible to have unscheduled appointments at the institution where you are treated?
105)	Does the institution where you are treated have the resources to offer quality care?
106)	Do you believe the health system does everything that is possible to improve your health?
107)	Do you participate in your hospital discharge planning?
108)	Is hospital discharge performed by all members of the multidisciplinary team?
109)	Was the return date to the institution set at the time of hospital discharge?
110)	Upon discharge from the hospital, did the health professionals provide guidance on the care that should be performed at home?

patient activation, and acceptance of the disease); and health behaviors (self-care and treatment adherence, self-management, problem solving, and lifestyle)(20).

Among the health vulnerability elements, Co-presences are justified by the essential correlation of the human person with others[6], involving everything they deal with in their daily experience, such as family ties (family relationships, family accompaniment, and family functioning) and social support (emotional, instrumental, and informational support and autonomy). This dimension covers the growing recognition of

co-presences as an incentive for the motivation, maintenance, and better management of self-care, well-being, and quality of life of people with HF(20).

In this study, Care can be understood as an act or possibilities, contemplating the positive way of caring — authentic, dynamic, and continuous[6]. The dimension of Care, in turn, expressed the relationship of people with HF with the professionals and health systems involved in the care process, through health technologies (light, light-hard, and hard), health costs (hospital admissions, formal and informal care, drug therapy, and personal expenses), health services (access to health services, trust in the health system, fragmentation of care, relational continuity, and planned hospital discharge)(20).

When analyzing the vulnerability of people with HF based on the listed dimensions, a break from traditional care and an approximation to the human condition and circumstances that permeate the existential trajectory of these individuals can be observed. To consider people with HF as beings who experience vulnerability is not to dwell on the complications themselves, but to anticipate what may determine them, through broad and accurate observation.

Given the complexity of this syndrome and its repercussions, nurses must be prepared to provide assistance to meet the biopsychosocial needs of these individuals, leading them to overcome limitations and acquire coping mechanisms[21]. In this sense, the care of people with HF, based on vulnerability, involves understanding the uniqueness of the other[6], in a professional, therapeutic, scientific and human way, enabling the achievement of health and well-being.

The content assessment of the dimensions and items was carried out by a group of specialists in HF/health vulnerability/instrument construction from different professions in the health area and from five large Brazilian states. Analysis by specialists is a consolidated technique in validation studies, as they judge the extent to which each item of the instrument represents the phenomenon of interest(22).

In order for the content evaluated by health instruments to be current and relevant, the researcher needs to be inserted in the social context of the target population, and be aware of their needs and particularities[23]. Caring from the perspective of vulnerability requires recognizing that human care goes beyond technological care. It must be based on scientific knowledge, skills, attitudes, ethical sensitivity, and moral integrity, from the various fields of knowledge and practices, which justifies the selection of specialists from different health areas.

In this context, it is relevant to address interprofessional education, a modality of health training that promotes integrated and collaborative teamwork between professionals from different areas with a focus on the health needs of users and the population, in order to improve service responses to these needs and the quality of health care[24]. In the scope of HF, teams must offer care that meets the health needs of the human person, recognizing their vulnerability and the context in which they are inserted. Doing so requires synergism between professionals and levels of care, in effective co-participation, and fortified interpersonal relationships.

Furthermore, the selection of specialists from different regions enables adaptation of the constructed instrument to the context of the country as a whole, considering the cultural diversity of the continental dimensions of Brazil, which cannot be ignored(18), in other words, it is possible to obtain an instrument with more comprehensive language and to overcome the bias of regionality. The specialists' assessment culminated in the recommendation of maintaining the learned dimensions and all the items, which were considered adequate and relevant.

It is worth noting that the version of the instrument validated by the specialists was applied to 31 patients with a medical diagnosis of HF, for semantic analysis of the HVQ-HF[25]. This made it possible to verify the understanding of the items and their subsequent adequacy to the educational and cultural level of the evaluated population, representing a link between the empirical and theoretical correspondence of the instrument.

Caring is an interactive process that is revealed in the relationship with others. Respecting the integrity of people with HF, regardless of the cause of the condition, should be a priority in nursing care, through behaviors that favor the being who experiences vulnerability. The incorporation of the concept of vulnerability in care is important for health professionals and services to be able to sustain more humanized care, with expressive actions supported by scientific knowledge, from the perspective of integrality.

The lack of research that discusses the health vulnerability of people with HF and the scarcity of specific references on the subject is a limiting factor of this study, emphasizing the unprecedented nature of the content exposed herein. Another limitation of this study was related to the need for clinical validation of the constructed questionnaire. Therefore, it is important to emphasize that the instrument is still in the process of clinical validation, which is being carried out based on item response theory.

CONCLUSION

The procedures performed for the construction of the HVQ-HF enabled the identification and validation of the dimensions and the elaboration of items that contribute to the definition of vulnerability in the researched population, making it valid and suitable for external validation. In the development process of the HVQ-HF, the constituent elements of the latent health vulnerability trait of the person with HF were listed. The re-interpretation of health vulnerability from the Human Person, Co-presences, and Care dimensions enhanced the perception of vulnerability and encompassed the diversity and particularities of the people with HF.

The results obtained gave rise to an instrument with expanded content, which envisages a broadened perspective of being in a condition of vulnerability, enabling professionals to promote health and prevent HF complications in their most essential form.

It is hoped that the HVQ-HF will enable better understanding of people in a vulnerable situation and their surroundings, in addition to enabling clinical nursing care anchored on concepts that favor the profession, opening new paths for nursing science. Finally, the identification and assessment of vulnerable situations of people with HF through an instrument supports the systematization of nursing care, organizing care in an individualized and comprehensive way.

REFERENCES

1. Seferović PM, Jankowska E, Coats AJS, Maggioni AP, Lopatin Y, Milinković I, et al. The heart failure association atlas: rationale, objectives, and methods. Eur J Heart Failure [Internet]. 2020 [cited 2021 Sept. 04];22(4):638-45. Available from: https://doi.org/10.1002/ejhf.1768.
2. Aoyanagi H, Nochioka K, Sakata Y, Masanobu M, Shiroto T, Abe R, et al. Temporal changes in left ventricular ejection fraction and their prognostic impacts in patients with stage B heart failure. Int J Cardiol [Internet]. 2020 [cited 2021 Sept. 04];306:123-32. Available from: https://doi.org/10.1016/j.ijcard.2020.02.040.
3. Fernandes ADF, Fernandes GC, Mazza MR, Knijnik LM, Fernandes GS, Vilela AT, et al. A 10-year trend analysis of heart failure in the less developed Brazil. Arq Bras Cardiol [Internet]. 2020 [cited 2021 Sept. 04];114(2):222-31. Available from: https://doi.org/10.36660/abc.20180321.
4. Souza TCTOA, Correia DMS, Nascimento DC, Christovam BP, Batista DCS, Cavalcanti ACD. The difficult daily life of heart failure bearing patients. J Res Fundam Care Online [Internet]. 2019 [cited 2021 Sept. 04];11(5):1340-6. Available from: https://doi.org/10.9789/2175-5361.2019.v11i5.1340-1346.
5. Herdman TH, Kamitsuru S, editors. Nursing diagnoses: definitions and classification, 2015-2017. Oxford: Wiley Blackwell; 2014.
6. Cestari VRF, Moreira TMM, Pessoa VLMP, Florêncio RS, Silva MRF, Torres RAM. The essence of care in health vulnerability: a Heideggerian construction. Rev Bras Enferm [Internet]. 2017 [cited 2021 Sept. 04];70(5):1112-6. Available from: https://doi.org/10.1590/0034-7167-2016-0570.
7. Uchmanowicz B, Szymańska-Chabowska A, Jankowska-Polańska B. Assessment of adherence to medication for cardiovascular diseases: measurement tools. Cardiovasc J Afr [Internet]. 2019 [cited 2021 Sept. 04];30(2):113-9. Available from: https://doi.org/10.5830/CVJA-2018-050.
8. Sedlar N, Socan G, Farkas J, Mårtensson J, Strömberg A, Jaarsma T, et al. Measuring self-care in patients with heart failure: a review of the psychometric properties of the European Heart Failure Self-Care Behaviour Scale (EHFScBS). Patient Educ Couns [Internet]. 2017 [cited 2021 Sept. 04];100(7):1304-13. Available from: https://doi.org/10.1016/j.pec.2017.02.005.
9. Matsuoka S, Kato N, Kayane T, Yamada M, Koizumi M, Ikegame T, et al. Development and validation of a heart failure-specific health literacy scale. J Cardiovasc Nurs [Internet]. 2016 [cited 2021 Sept. 04];31(2):131-9. Available from: https://doi.org/10.1097/jcn.0000000000000226.
10. Moshki M, Khajavi A, Vakilian F, Minaee S, Hashemizadeh H. The content comparison of health-related quality of life measures in heart failure based on the international classification of functioning, disability, and health: a systematic review. J Cardiovasc Thorac Res [Internet]. 2019 [cited 2021 Sept. 04];11(3):167-75. Available from: https://doi.org/10.15171/jcvtr.2019.29.
11. Nepomuceno E, Silva LN, Cunha DCP, Furuya RK, Simões MV, Dantas RAS. Comparison of tools for assessing fatigue in patients with heart failure. Rev Bras Enferm [Internet]. 2018 [cited 2021 Sept. 04];71(5):2404-10. Available from: https://doi.org/10.1590/0034-7167-2017-0083.
12. Pasquali L. Psychometrics. Rev Esc Enferm [Internet]. 2009 [cited 2021 Sept. 04];43(spe):992-9. Available from: https://doi.org/10.1590/S0080-62342009000500002.
13. Pasquali L. Psicometria: teoria dos testes na psicologia e na educação. Petrópolis: Vozes; 2011.
14. Jasper MA. Expert: a discussion of the implications of the concept as used in nursing. J Adv Nurs [Internet]. 1994 [cited 2021 Sept. 04];20(4):769-76. Available from: https://doi.org/10.1046/j.1365-2648.1994.20040769.x.
15. Mendes KDS, Silveira RCCP, Galvão CM. Revisão integrativa: método de pesquisa para a incorporação de evidências na saúde e na enfermagem. Texto & Contexto Enferm [Internet]. 2008 [cited 2021 Sept. 04];17(4):758-64. Available from: https://doi.org/10.1590/S0104-07072008000400018.
16. Cestari VRF, Florêncio RS, Pessoa VLMP, Moreira TMM. Validation of health vulnerability markers for people with heart failure. Rev Eletr Acervo Saúde [Internet]. 2021 [cited 2021 Sept. 04];13(5):1-11. Available from: https://doi.org/10.25248/REAS.e7282.2021.

17. Polit DF, Beck CT. Fundamentos de pesquisa em enfermagem: avaliação de evidências para a prática da enfermagem. 9ª ed. Porto Alegre: Artmed; 2019.
18. Borges JWP, Moreira TMM, Andrade DF. Nursing care interpersonal relationship questionnaire: elaboration and validation. Rev Latinoam Enferm [Internet]. 2017 [cited 2021 Sept. 04];25:e2962. Available from: https://doi.org/10.1590/1518-8345.2128.2962.
19. Ayres JRCM. Vulnerabilidade, direitos humanos e cuidado: aportes conceituais. In: Barros S, Campos PFS, Fernandes JJS, organizadores. Atenção à saúde de populações vulneráveis. Barueri: Edições Manole; 2014. p. 1-25.
20. Cestari VRF, Moreira TMM, Pessoa VLMP, Florêncio RS. Insuficiência cardíaca: interface com a vulnerabilidade em saúde. Curitiba: Editora CRV; 2019.
21. Oliveira APD, Cavalcante AMRZ, Carneiro CS, Santos VB, Moorhead S, Lopes JL, et al. Health education: the effectiveness of interventions in patients with heart failure. Rev Bras Enferm [Internet]. 2020 [cited 2021 Sept. 04];73(2):e20180782. Available from: https://doi.org/10.1590/0034-7167-2018-0782.
22. Souza AC, Alexandre NMC, Guirardello EB. Psychometric properties in instruments evaluation of reliability and validity. Epidemiol Serv Saúde [Internet]. 2017 [cited 2021 Sept. 04]; 26(3):649-59. Available from: https://doi.org/10.5123/S1679-49742017000300022.
23. Leite SS, Áfio ACE, Carvalho LV, Silva JM, Almeida PC, Pagliuca LMF. Construction and validation of an educational content validation instrument in health. Rev Bras Enferm [Internet]. 2018 [cited 2021 Sept. 04];71(Suppl. 4):1635-41. Disponível em: https://doi.org/10.1590/0034-7167-2017-0648.
24. Casanova IA, Batista NA, Moreno LR. Interprofessional education and shared practice in multiprofessional health residency programs. Interface (Botucatu) [Internet]. 2018 [cited 2021 Sept. 04];22(1):1325-37. Available from: https://doi.org/10.1590/1807-57622017.0186.
25. Cestari VRF, Jorge TV, Moreira TMM. Análise semântica de instrumento de mensuração da vulnerabilidade em saúde da pessoa com insuficiência cardíaca. In: Moreira TMM, Borges JW, Garces TS. Instrumentos em enfermagem e saúde: construção, validação e utilização. Curitiba: Editora CRV; 2019. p. 57-66. https://doi.org/10.24824/978854443723.0.