

Heart failure: beliefs about body weight monitoring

Insuficiência cardíaca: crenças sobre o monitoramento do peso corporal

Insuficiencia cardíaca: creencias sobre el seguimiento del peso corporal

**Daniele Mamédio de
Andrade¹**

ORCID: 0000-0002-3291-1525

Mailson Marques de Sousa²

ORCID: 0000-0002-8099-4310

**Simone Helena dos Santos
Oliveira²**

ORCID: 0000-0002-9556-1403

**Frankleudo Luan de Lima
Silva¹**

ORCID: 0000-00022663-5798

**Taciana da Costa Farias
Almeida¹**

ORCID: 0000-0002-9390-9656

Abstract

Objective: To investigate the beliefs of people with heart failure about monitoring body weight. **Method:** a qualitative study, guided by the Theory of Planned Behavior (TPB). Individual structured interviews were conducted with 25 people with heart failure treated at Basic Health Units. Data were examined through frequency and content analysis. **Results:** Regarding behavioral beliefs, the advantages were controlling weight, monitoring health and quality of life, and no disadvantages were mentioned. Concerning normative beliefs, children and spouses were the people with the greatest positive influence on weight monitoring. Regarding control beliefs, the advantages were having a scale and having a health unit and pharmacy close to home, and the difficulties were lack of time and distance from places with scales. **Conclusion:** The positive behavioral, normative and control beliefs identified need to be strengthened to promote daily monitoring of body weight as a strategy to prevent signs of clinical decompensation. Educational interventions should be instituted to improve adherence to weight control as a self-care behavior.

Descriptors: Heart Failure; Body Weight; Social Norms; Social Theory.

¹Federal University of Campina Grande. Campina Grande, Paraíba, Brazil.

²Federal University of Paraíba. João Pessoa, Paraíba, Brazil.

Corresponding author:
Taciana da Costa Farias Almeida
E-mail:
tacianacfalmeida@gmail.com

Whats is already known on this?

Daily monitoring of body weight is a self-care behavior that has low adherence in patients with heart failure. It is a strategy to monitor signs of congestion.

What this study adds?

The study shows the beliefs of patients with heart failure and makes it possible to outline strategies to encourage continuous monitoring for early recognition of signs of clinical decompensation.



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Resumo

Objetivo: Investigar as crenças de pessoas com insuficiência cardíaca sobre o monitoramento do peso corporal. **Métodos:** Estudo qualitativo, norteado pela Theory of Planned Behavior (TPB). Foram realizadas entrevistas estruturadas individuais com 25 pessoas com insuficiência cardíaca atendidas em Unidades Básicas de Saúde. Os dados foram examinados por meio de análise de frequência e conteúdo. **Resultados:** No que se refere às crenças comportamentais, as vantagens foram controlar o peso, acompanhar a saúde e a qualidade de vida, e nenhuma desvantagem foi mencionada. No tocante às crenças normativas, filhos(as) e esposo(a) revelaram-se como pessoas com maior influência positiva sobre o monitoramento do peso. Quanto às crenças de controle, destacaram-se como facilidades possuir balança e ter unidade de saúde e farmácia próximas à residência, e como dificuldades, ausência de tempo e distância de locais com balança. **Conclusão:** As crenças comportamentais, normativas e de controle positivas identificadas necessitam ser fortalecidas para a promoção do monitoramento diário do peso corporal como estratégia para a prevenção de sinais de descompensação clínica. Intervenções educativas devem ser instituídas para melhorar a adesão ao controle de peso como comportamento de autocuidado

Descritores: Insuficiência Cardíaca; Peso Corporal; Normas Sociais; Teoria Social.

Resumen

Objetivo: Investigar las creencias de las personas con insuficiencia cardíaca sobre el seguimiento del peso corporal. **Métodos:** estudio cualitativo, guiado por la Theory of Planned Behavior (TPB). Se realizaron entrevistas estructuradas individuales con 25 personas con insuficiencia cardíaca atendidas en Unidades Básicas de Salud. Los datos fueron examinados mediante análisis de frecuencia y contenido. **Resultados:** En cuanto a las creencias conductuales, las ventajas fueron controlar el peso, monitorear la salud y la calidad de vida, y no se mencionaron desventajas. En cuanto a las creencias normativas, hijo(a)(s) y marido/mujer se revelaron como las personas con mayor influencia positiva en el control del peso. En cuanto a las creencias de control, se destacaron como facilidades contar con una báscula y contar con una unidad de salud y farmacia cerca de la residencia, y como dificultades, la falta de tiempo y la distancia a los lugares con báscula. **Conclusión:** las creencias positivas conductuales, normativas y de control identificadas necesitan ser fortalecidas para promover el seguimiento diario del peso corporal como estrategia de prevención de signos de descompensación clínica. Se deben instituir intervenciones educativas para mejorar la adherencia al control del peso como conducta de autocuidado.

Descriptorios: Insuficiencia Cardíaca; Peso Corporal; Normas Sociales; Teoría Social.

INTRODUCTION

Heart failure (HF) is a clinical syndrome responsible for high rates of hospitalizations, morbidity and poor quality of life. It is estimated that 64 million people worldwide have the disease.⁽¹⁾ Data indicate that 6.2 million American adults have HF.⁽²⁾ In Europe, a previous record indicates 15 million people affected.⁽³⁾ In Brazil, HF is the leading cause of hospitalization due to cardiovascular disease, and in the 2021-2022 biennium, 364,475 hospitalizations were authorized in the Brazilian Health System due to the condition.⁽⁴⁾

The Brazilian Registry of Heart Failure (BREATHE) identified low medication adherence, infections, arrhythmias and inadequate sodium intake as the main causes of HF decompensation.⁽⁵⁾

Evidence points to unsatisfactory self-care in people with HF, which leads to unplanned hospital admissions and adverse clinical outcomes.⁽⁶⁻⁷⁾ Among the non-pharmacological actions for self-care in HF, daily monitoring of body weight is a prescribed recommendation to assess volume status and response to diuretic therapy. Patients are instructed to seek medical attention or adjust the dose of diuretics when weight gain exceeds 2 kg in three days.⁽⁸⁾

Although it is a simple and easy-to-perform action, research has highlighted low adherence to weight monitoring in patients with HF. Factors such as age, lack of knowledge, and low educational and motivational levels are highlighted as barriers to the implementation of this behavior.⁽⁹⁻¹⁰⁾ In addition to these factors, there is evidence that, in clinical practice, this recommendation still presents weaknesses between medical or nursing prescriptions.⁽¹¹⁾

Given the need for people with HF to engage in self-care measures that are essential to controlling the disease and preventing clinical decompensation, the proposal of strategies whose target is modeling health-promoting behaviors begins to play an important role.

Thus, the Theory of Planned Behavior (TPB), addressed in this research, is anchored in beliefs about behaviors that are susceptible to influence through previous experiences, social relationships, values and cultures. Moreover, this theory has been used to identify, explain and predict human behaviors related to health, evidencing relevant results that can be used in proposing interventions in the field.⁽¹²⁻¹³⁾

However, research on the beliefs of people with HF about weight monitoring in patients with this condition is still in its infancy, especially in the Primary Health Care setting. It is noteworthy that studies focus on assessments of self-care actions through quantitative approaches,^(3,6,14) an aspect that adds support to the relevance of this study, since it contributes to a broader understanding of behavior, in order to

highlight information that can support the design of intervention strategies to enhance positive beliefs and modulate beliefs that are unfavorable to daily checking of body weight. Moreover, care for people with HF is heterogeneous, due to socioeconomic inequalities, access to health services and cultural inequalities, in addition to the scarcity of specialized clinics for monitoring the disease.

In this context, the behavior of interest was chosen as daily monitoring of body weight for 30 days in people with HF treated in Primary Health Care, considering the elements of target, action, context and time proposed by TPB.⁽¹⁵⁻¹⁶⁾ Therefore, this study aimed to investigate the beliefs of people with HF about monitoring body weight.

METHODS

This is an exploratory study with a qualitative approach based on TPB,⁽¹⁵⁻¹⁶⁾ based on the COnsolidated criteria for REporting Qualitative research (COREQ). The research was carried out in four Basic Health Units (BHU) in a municipality in the countryside of northeastern Brazil.

According to TPB, there is no ideal number of participants for surveying salient beliefs about the behavior to be investigated. However, 25 to 30 participants are recommended to understand the phenomenon.⁽¹⁵⁾

Participants were recruited through convenience sampling, including people with HF with a confirmed medical diagnosis in medical records, aged ≥ 18 years, residing and registered in areas covered by BHU. People who had cognitive barriers confirmed in medical records were not included.

Data were collected through individual, in-person interviews, from November 2021 to April 2022, in a private environment and with the use of personal protective equipment by the research member, respecting the social distancing imposed by COVID-19. Participants' responses were recorded on a smartphone, and the interview lasted an average of 20 minutes.

To characterize participants, a form containing questions about demographic and clinical data with the following variables was used: age; sex; level of education; marital status; professional activity; time since HF diagnosis; etiology; functional class according to the New York Heart Association (NYHA);⁽¹⁷⁾ left ventricular ejection fraction contained in transthoracic echocardiogram report; medications in use; history of hospitalization in the last year; search for emergency and urgent care services in the last three months with signs and symptoms of HF; current weight; frequency of weight monitoring; attribution of increased body weight; risk factors; and other comorbidities.

The survey of beliefs was carried out using a structured form following TPB recommendations, with six open-ended questions in the free response format.⁽¹⁵⁾ For behavioral beliefs, the following question was asked: in your opinion, what are the advantages/disadvantages of monitoring your body weight over the next 30 days? For normative beliefs, the following question was asked: which important people approve/disapprove of you monitoring your body weight over the next 30 days? Finally, for control beliefs, the following question was asked: what are the facilities/difficulties that you find in monitoring your body weight over the next 30 days?

As for data analysis, the interviews were transcribed in full in Microsoft Word® 2016 and, consecutively, submitted to frequency and content analysis, based on TPB indications.⁽¹⁵⁻¹⁶⁾ Data analysis followed the following stages: material exploration; and organization and grouping of responses by similarity in each TPB construct. In this investigation, the most cited beliefs were considered salient, i.e., those that were expressed at least five times and reached a frequency of 75%, as recommended by the theory. This criterion was adopted in a previous investigation.⁽¹⁸⁾

Demographic and clinical data, as well as behavioral, normative and control beliefs, were analyzed descriptively and presented in absolute and relative frequencies. Participants' statements were coded, adopting the letter "P" at the end of speech excerpts, followed by the number corresponding to the order in which the interviews were conducted.

The study complied with national and international standards for research involving human beings, and was approved by the Research Ethics Committee of a teaching hospital in the countryside of Paraíba, under Opinion 4,884,318. The participation of each individual was formalized by signing the Informed Consent Form.

RESULTS

Twenty-five people with HF participated, predominantly female (14; 56%), with an average age of 60.7 years (range: 27 to 85 years), 14 (56%) married, with an average education of 13.8 years of study and 16 (64%) economically active, with a family income of one and a half minimum wages in force (R\$ 1,818.00).

As for clinical data, the most frequent etiology was non-ischemic (17; 68%), with an average diagnosis time of nine years and a range from eight months to 30 years. Regarding the HF functional classification, 12 (48%) were classified as class I (no limitation), eight (32%) as class II (mild limitation), and five (20%) as class III (moderate limitation). Furthermore, 11 (44%) had preserved left ventricular ejection fraction; 16 (74%) had hypertension; six (24%) had diabetes associated with HF; 19 (76%) used thiazide diuretics; 18 (72%) were using beta-blockers; four (16%) sought health services in the last three months; and four (16%) were hospitalized in the last year, with symptoms of HF decompensation.

In relation to risk factors for HF, 17 (68%) reported not having nutritional monitoring; 17 (68%) responded that they did not consume alcohol or tobacco; and eight (32%) weighed themselves monthly. The average current weight of participants was 75.92 kg (range: 49 kg to 108 kg).

According to TPB⁽¹⁶⁾, behavioral beliefs weigh the assessment that a person makes regarding the consequences of a future action in terms of advantages and disadvantages associated with adopting the behavior. From this perspective, participants reported:

Knowing my weight, having control over it is very important to me (P5).

My daughter, I think it's knowing if I'm fat or thin and then seeing what I do (P14).

Knowing my weight (P17).

Weight control, having a healthier life (P19).

As for normative beliefs, which concern the perception of approval from important social referents regarding weight monitoring, it was found that these referents were mainly children and spouse, as can be seen in the following responses:

Everyone in my house, especially my children and my husband (P2).

I have children who worry about me (P9).

My children and husband (P18).

My wife keeps nagging me (P10).

Regarding control beliefs, which imply the perception of the facilities and/or difficulties of adopting the behavior, participants pointed out the facilities for monitoring body weight:

There is a pharmacy nearby and there is a health center (P25).

I have a scale at home (P23).

There are many, including the one I work out at, and there is a scale there that the owner bought. There are also pharmacies, the health center and other things. (P21).

Among the difficulties mentioned are the inaccessibility to places with scales and the lack of time, as follows:

The difficulty is lack of time, because I work and I forget when I get home (P3).

If there was somewhere nearby that had a scale or if the health center was closer so I could go more often.

It would be great (P8).

I have to take care of the house and my young granddaughters, so that makes it difficult for me. (P9).

In line with the theoretical framework adopted, the beliefs expressed were grouped by similarity and quantified in order to highlight the most relevant or most frequently expressed beliefs by participants. Thus, the behavioral beliefs that stood out were controlling weight, monitoring health and improving quality of life, as advantages of monitoring body weight over the next 30 days, with no disadvantages being mentioned by participants. Children were the social referents that positively influenced weight monitoring. Having a BHU and pharmacy near the home and having a scale for weighing were aspects considered as facilitators for carrying out the behavior. Chart 1 describes the frequencies of emission of positive and negative salient beliefs.

Chart 1. Salient behavioral, normative and control beliefs of people with heart failure related to body weight monitoring. Campina Grande, PB, Brazil, 2022.

Beliefs	Advantages n (%)	Disadvantages n (%)
Behavioral	Control body weight 19 (76%) Monitor health 7 (28%) Improve quality of life 6 (24%)	None 25 (100%)
Beliefs	Approve behavior n (%)	Disapprove behavior n (%)
Normative	Child 17 (68%) Spouse 10 (40%)	No one 25 (100%)
Beliefs	Facilities for performing behavior n (%)	Difficulties in performing behavior n (%)
Control	Basic Health Unit near home 14 (56%) Nearby pharmacy 12 (48%) Having a scale 5 (20%)	None 15 (60%) Absence of time 5 (20%) Distances of places with a scale 5 (20%)

*Own source - The sum considers the quantity of beliefs issued and not the number of participants.

DISCUSSION

The study investigated behavioral, normative, and control beliefs related to monitoring body weight in people with HF in light of TPB. The findings contribute to the state of the art and demonstrate a broad perception of behavior, which demonstrates weakness in knowledge about the disease and in the practice of checking weight, since no participant reported weighing themselves daily.

Controlling weight and promoting quality of life contribute to maintaining clinical stability in people with HF. However, the beliefs expressed by participants do not emphasize monitoring body weight as an important care measure for identifying warning signs of hypervolemia - a finding that shows that the belief is not anchored in significant knowledge about the disease.

One possible reason for the results found is that participants did not receive or did not sufficiently understand the educational guidelines provided by health professionals. The lack of knowledge, motivation and information about the importance of daily weight monitoring by health professionals is associated with the way HF is perceived.⁽¹⁹⁾ Therefore, when congestion symptoms are not present and do not limit daily activities, patients tend to neglect this behavior.

A study conducted in Ethiopia confirms the low adherence of people with HF to weight monitoring.⁽²⁰⁾ Therefore, it becomes relevant to align care and health education activities with non-pharmacological management, with the aim of strengthening self-care measures beyond pharmacological therapy, as they constitute an essential part of disease control.

Concerning disadvantages, no participant reported any negative effects of this practice, indicating that this behavior is favorable and convenient, and can effectively help control heart conditions and

minimize unfavorable outcomes. This scenario is conducive to nurses' role in facilitating educational actions that promote knowledge and the development of behavioral skills for self-care.

As for normative beliefs, no participant mentioned people who disapproved of the behavior of monitoring body weight. It is worth noting that the people in participants' daily lives formed a social support network capable of exerting a positive influence on engagement in self-care. The approval of children and spouses in the adherence to health-related behaviors is evidence present in other studies.⁽²¹⁻²²⁾

The increasing role of family members, significant others and friends as caregivers in assisting self-care in patients with HF has been mentioned, but reference to health professionals has been rarely observed.⁽²³⁾ A qualitative study identified that health professionals did not exert a major influence on the use of oral antidiabetic medications.⁽²⁴⁾

In this study, healthcare professionals were not cited as positive or negative social referents for adherence to the behavior. Therefore, interventions should be directed at strengthening bonds, trust, and communication between professionals and patients. Nurses and physicians need to incorporate assertive and clear guidelines into their prescriptions regarding the importance of daily monitoring of body weight in people with HF, since this is a quality indicator for promoting self-care and for early recognition of congestion.

Among the control factors, having a scale and living near a BHU or a pharmacy are facilities found for carrying out the behavior, which indicates external dependence on establishments with support technology to continue the therapeutic measure. In turn, aspects that interfered with the intention to monitor body weight in the next 30 days were the lack of time and the distance from places with weighing scales, configuring themselves as barriers for this purpose.

Additionally, the study points to changes in habits, lack of support tools and financial costs as limiting factors for adherence to self-care. In addition to this, the need for transportation generates increased expenses and can influence the low priority of practices such as daily body weight checks.⁽²⁵⁾

In this context, suggestions are made for public health policies with programs that include the provision of scales to registered low-income patients with HF or the availability of purchasing this equipment at low cost, as they are necessary tools for adherence to body weight monitoring, a self-care measure that can impact health indicators and quality of life.

This study has limitations due to the characteristics inherent to the research setting and should therefore be analyzed with caution. For nursing practice, the findings are relevant, as they provide information for planning educational interventions aimed at promoting self-care and daily monitoring of body weight in people with HF. It is recommended that further research be carried out to delve deeper into the topic in different settings of care for patients with HF, in order to compare the salient beliefs identified in this investigation.

CONCLUSION

This study investigated the behavioral, normative, and control beliefs of people with HF related to body weight monitoring. It is understood as essential to develop motivational educational strategies to strengthen the understanding of self-care behavior. Health policies are needed to provide access to weighing scales for this population.

CONTRIBUTIONS

Contributed to the conception or design of the study/research Sousa MM, Almeida TFC. Contributed to data collection: Andrade DM, Silva FLL. Contributed to the analysis and/or interpretation of data: Sousa MM, Oliveira SHS, Almeida TFC. Contributed to article writing or critical review: Andrade DM, Sousa MM, Oliveira SHS, Silva FLL, Almeida TFC. Final approval of the version to be published: Andrade DM, Sousa MM, Oliveira SHS, Silva FLL, Almeida TFC.

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