

PHYSICAL AND PSYCHOSOCIAL EFFECTS OF HEART FAILURE IN PERCEIVED QUALITY OF LIFE*

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ABSTRACT: The objective was to analyze the health-related quality of life of heart failure patients and to present an intervention proposal for the variables that most affect the perceived quality of life. Descriptive, cross-sectional study with a quantitative approach, involving 84 heart failure patients under outpatient follow-up, undertaken in the city of João Pessoa, PB, Brazil, between January and July 2015. The Minnesota Living Heart Failure Questionnaire was applied. The average total score on the Minnesota Living Heart Failure Questionnaire was 33.13 ± 19.66 , revealing a good quality of life. The physical aspects and difficulty to comply with the diet were the variables that most negatively influenced the perceived quality of life. Therapeutic strategies should be proposed with a multidisciplinary focus for the most affected physical and psychosocial aspects, with a view to minimizing the impact of the heart failure on the health-related quality of life.

DESCRIPTORS: Chronic disease; Heart failure; Quality of life; Life style.

EFEITOS FÍSICOS E PSICOSSOCIAIS DA INSUFICIÊNCIA CARDÍACA NA PERCEPÇÃO DA QUALIDADE DE VIDA

RESUMO: Objetivou-se analisar a qualidade de vida relacionada à saúde de pacientes com insuficiência cardíaca e apresentar proposta de intervenção para as variáveis que mais afetam a percepção da qualidade de vida. Estudo descritivo, transversal, com abordagem quantitativa, com 84 pacientes com insuficiência cardíaca em seguimento ambulatorial realizado no município de João Pessoa, PB, Brasil, no período de janeiro a julho de 2015. Aplicou-se o *Minnesota Living With Heart Failure Questionnaire*. A média do escore total do *Minnesota Living With Heart Failure Questionnaire* foi $33,13 \pm 19,66$ revelando boa qualidade de vida. No entanto, os aspectos físicos e a dificuldade de adesão à dieta foram as variáveis com maior influência negativa na percepção da qualidade de vida. Sugere-se a proposição de estratégias terapêuticas, com foco multidisciplinar para os aspectos físicos e psicossociais mais afetados para minimizar o impacto da insuficiência cardíaca na qualidade de vida relacionada à saúde.

DESCRIPTORES: Doenças crônicas; Insuficiência cardíaca; Qualidade de vida; Estilo de vida.

EFFECTOS FÍSICOS Y PSICOSOCIALES DE LA INSUFICIENCIA CARDÍACA EN LA CALIDAD DE VIDA PERCIBIDA

RESUMEN: El objetivo fue analizar la calidad de vida relacionada a la salud de pacientes con insuficiencia cardíaca y presentar propuesta de intervención para las variables que más influyen en la calidad de vida percibida. Estudio descriptivo, trasversal, con aproximación cuantitativa, con 84 pacientes con insuficiencia cardíaca en seguimiento ambulatorio, desarrollado en el municipio de João Pessoa, PB, Brasil, en el período de enero a julio del 2015. Fue aplicado el *Minnesota Living Heart Failure Questionnaire*. El promedio del score total del *Minnesota Living Heart Failure Questionnaire* correspondió a $33,13 \pm 19,66$ revelando buena calidad de vida. Sin embargo, los aspectos físicos y la dificultad de adhesión a la dieta fueron las variables con mayor influencia negativa en la calidad de vida percibida. Se sugiere proponer estrategias terapéuticas con enfoque multidisciplinario para los aspectos físicos y psicossociales más afectados, con vistas a minimizar el impacto de la insuficiencia cardíaca en la calidad de vida relacionada a la salud.

DESCRIPTORES: Enfermedad crónica; Insuficiencia cardíaca; Calidad de vida; Estilo de vida.

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● INTRODUCTION

Heart failure (HF) is a chronic syndrome manifested by the inability of the heart to fill itself with blood or eject it in response to the organism's metabolic and tissue needs. The HF is caused by structural or functional disorders and is considered a severe and growing public health problem that entails high socioeconomic costs ⁽¹⁾.

Despite the advances in the treatment and clinical management, HF presents high mortality and morbidity rates, being the primary cause of hospitalization in the elderly in Western countries ⁽²⁾. Estimates appoint that about 6.5 million people in Europe, five million people in the United States and 2.5 million people in Japan suffer from HF and that, each year, about one million new cases are diagnosed in the global context ⁽³⁾. In Brazil, about 6.4 million people present the condition, representing the first cause of hospitalizations due to cardiovascular illnesses ⁽⁴⁾.

Evidences appoint low treatment compliance, lack of knowledge on the syndrome, lack of social support and inappropriate monitoring as the main factors of decompensated heart failure ⁽³⁾. In that context, alternatives have been sought to reduce the mortality rates and repeated hospitalizations, with a view to bringing down the health costs and minimizing the impact of heart failure on the patients' quality of life (QoL).

QoL has been studied to promote decision making, identify the best therapeutic conduct in clinical practice and help to develop health promotion and rehabilitation programs with a comprehensive and humanized care focus ⁽⁵⁾. The health-related quality of life (HRQoL) is considered to be the impact of the symptoms, disability or limitations of a disease on the perceived wellbeing ⁽⁶⁾.

In the context of heart failure, in comparison with the overall population, the patients present a reduced HRQoL due to their reduced ability to accomplish activities of daily living, caused by progressive disease symptoms like dyspnea, fatigue, insomnia, appetite loss and decreased social contact ^(2,4).

In Brazil, few studies have assessed the HRQoL in HF patients, the South and Southeast being the main research scenarios. Therefore, it is relevant to propose new studies in the different regions of the country, in view of the cultural plurality and the daily life habits that can influence the disease, thus providing knowledge on these patients' HRQoL and identifying the dimensions that affect it in the negative or positive sense. This information can support the proposal of strategies in tune with the identified realities, aiming to contribute to improvements in these patients' QoL.

In view of the above, the research objectives were to: determine the health-related quality of life score of heart failure patients, to identify the mean scores of the variables in the dimensions of the Minnesota Living With Heart Failure Questionnaire and to elaborate an intervention proposal for the variables that negatively influence the perceived health-related quality of life.

● METHOD

Descriptive and cross-sectional study with a quantitative approach, undertaken at two public hospitals in João Pessoa, Paraíba, Brazil, between January and July 2015. The non-probabilistic and consecutive sample consisted of 84 HF patients, male and female.

The inclusion criteria were patients aged ≥ 18 years, under outpatient follow-up during the data collection period. Patients were excluded who suffered from cancer, pulmonary diseases, communication barriers and who presented clinical discomfort during the interview, such as dyspnea and fatigue.

The data were collected on the dates the outpatient consultations were scheduled, before or after the medical appointments, in a private room, through an individual interview. For the sociodemographic and clinical characteristics, the age, gender, marital situation, education, ethnic origin, functional class of the heart failure were registered according to the criteria of the New York Heart Association (NYHA), left ventricular ejection fraction, presence of comorbidities and medication therapy.

To assess the HRQoL, the Minnesota Living with Heart Failure Questionnaire (MLHFQ), validated for Brazilian Portuguese⁽⁷⁾. The MLHFQ consists of 21 questions, presented in the form of Likert scales, with scores ranging from 0 (no) to 5 (too much), with 0 representing “no limitations” and 5 “maximum limitation”. Higher scores indicate a worse QoL and lower scores a better QoL⁽⁷⁾.

To analyze the data, the software Statistical Package for Social Science (SPSS), version 21.0, was used. All variables were submitted to descriptive analysis, the reliability of the quality of life measures was analyzed by means of the internal consistency of the dimensions, using Cronbach's alpha coefficient (coefficients ≥ 0.70 were considered satisfactory).

Approval for the study was obtained from the Research Ethics Committee at Hospital Universitário Lauro Wanderley, under opinion 919.725/2014, in compliance with the formal requirements in Brazilian and international regulatory standards for research involving human beings.

● RESULTS

The sample consisted of 84 HF patients, with an average age of 58.82 ± 12.78 years, ranging between 23 and 86 years. Concerning the sociodemographic profile, a balanced gender distribution was found, as (n=45, 53.6%) belonged to the female gender, (n=42, 50%) identified themselves as white, (n=57, 67.8%) were married or lived with a fixed partner. In the sample, low education levels stood out, with (n=47, 56%) having finished primary education or not, while (n=18, 21.4%) were illiterate. Retirement (n=49, 58.3%) and a family income of two minimum wages (n= 41, 48.8%) were characteristics present in the sample.

As regards the clinical characteristics, the most frequent comorbidities were Systemic Arterial Hypertension (n=53, 63.1%), followed by Diabetes Mellitus (n=11, 13.1%). The most evidenced cause of HF was non-ischemic (n=61, 72.6%). Participants in functional classes I and II (n=37, 44%; n=31, 36.9%, respectively) stood out, according to the NYHA criteria. The mean left ventricular ejection fraction was 50 ± 14.6 , ranging between 19 and 74%. The drugs the patients most used and which were registered in their files were diuretics (n=44, 52.4%). Four patients (4.8%) used a pacemaker.

Before analyzing the results obtained by the MLHFQ, the internal consistency of the questionnaire was assessed using Cronbach's alpha (total score $\alpha=0.90$), revealing the reliability for the research sample. The total and dimension score of the HRQoL was obtained by adding up the averages of each variable in the instrument. Each dimension and the total score present possible variations, as displayed in Table 1. The results revealed that the total MLHFQ score corresponded to 33.13 ± 19.66 , indicating a good HRQoL in the study sample.

Table 1 – Dimension scores of the Minnesota Living Heart Failure Questionnaire. João Pessoa, PB, Brazil, 2015

Dimensions	Score \pm standard deviation	Median	Observed range	Possible range
Physical	15.68 ± 10.97	13.5	0-40	0-40
Emotional	7.62 ± 5.05	7	0-20	0-25
Total	33.13 ± 19.66	29	Apr-79	0-105

To assess the behavior of the variables and their influence in the dimensions of the MLHFQ, the subjects' mean score for each question was calculated (Figure 1). In the physical dimension, walking and climbing stairs, shortness of breath and fatigue were the variables with the highest averages and therefore the most compromised aspects. What the emotional dimension is concerned, the variables worry and feeling depressed were the most affected. For the remaining variables in the questionnaire, eat less of the food the patients liked presented the worst average among all items in the MLHFQ.

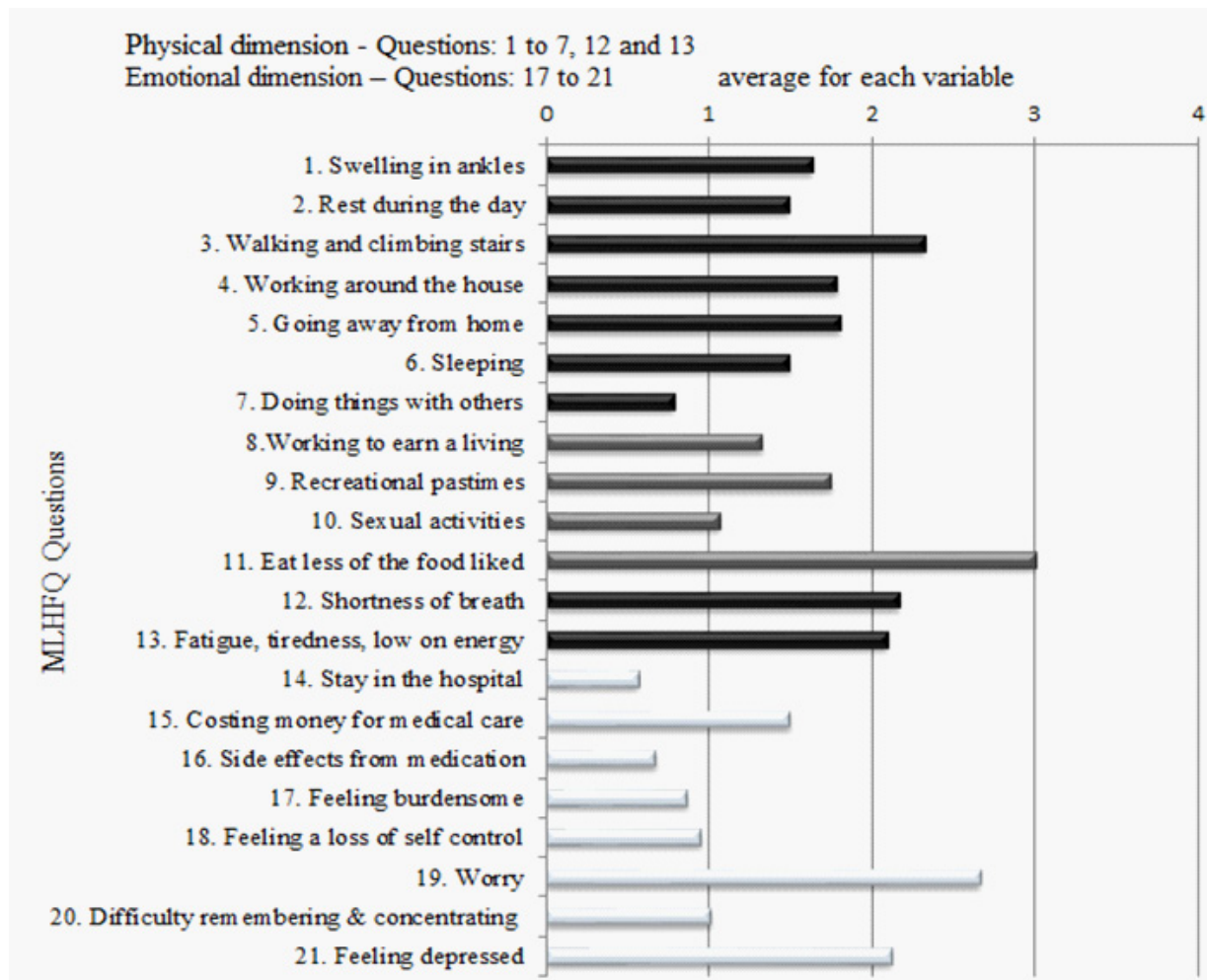


Figure 1 – Averages of variables in the Minnesota Living Heart Failure Questionnaire. João Pessoa, 2015

DISCUSSION

The sociodemographic profile was characterized by a balanced gender distribution, with an average age of 58.82 years, predominantly white, married or living with a fixed partner, retired and with low educational level. What age, education and professional situation are concerned, the results found are similar to Brazilian studies⁽⁸⁻⁹⁾.

From the clinical viewpoint, Systemic Arterial Hypertension (SAH) and Diabetes Mellitus (DM) were the comorbidities that stood out among the subjects. This finding is in line with a Latin American study that appointed SAH, DM, dyslipidemias and obesity as the main risk factors for heart failure. Therefore, the combination of these comorbidities presents severe cardio-circulatory implications that, without proper treatment, can cause the clinical decompensation and worsening of the condition⁽¹⁰⁾.

What the etiology is concerned, non-ischemic HF was predominant in the study sample, although the international literature appoints ischemia as the main cause. This finding can be related to the higher frequency of HF due to Chagas' disease and hypertension in the Brazilian context⁽¹¹⁾.

With regard to the functional classes of heart failure, according to the NYHA classification, in the sample, classes I and II prevailed, demonstrating that the patients monitored presented absence of symptoms or symptoms triggered by efforts.

Consequently, concerning the HRQoL measure assessed by the MLHFQ, the mean score was low for the total score and for the physical and emotional dimensions, being inferior to the midpoint of the scale range (physical: range 0-40, midpoint 20; emotional: 0-25, midpoint 12.5; total QoL: 0-105,

midpoint 52.5), evidencing that, despite suffering from a chronic condition with strong global health implications, the assessed patients presented a good health-related quality of life.

These data arouse reflections on the clinical conditions that characterize the sample, highlighting the absence of symptoms or symptoms triggered by physical efforts, which most participants mentioned. In this scope, it is highlighted that all patients are under outpatient monitoring, indicating the stabilization of their clinical condition. In addition, most of the sample regularly attended the medical appointment and had been monitored for more than six months, also indicating compliance with the prescribed medication therapy, which favor a lesser impact of the HF on the perceived health-related quality of life.

It is known that, as the disease progressively advances, the symptoms the patients experience are more intense, leading to the search for emergency services in case of clinical decompensation. In line with this argument, in a cohort study of 661 patients hospitalized with HF, prospectively monitored for three years, patients were found with high scores in the physical dimension, related to NYHA classes III and IV, reflecting a negative perceived HRQoL and high mortality rates⁽¹²⁾. Therefore, outpatients are expected to present better HRQoL scores than patients hospitalized due to the worsening of the HF symptoms that required the hospitalization.

Although the results revealed HRQoL, the behavior of the variables in the MLHFQ dimensions was analyzed with a view to verifying the behavior of each variable and its consequent contribution to the total and domain scores, based on which it could be identified that the physical dimension was the most affected, the main influences being fatigue, dyspnea and locomotion difficulties.

Fatigue is one of the most frequent manifestations in HF patients, as well as shortness of breath and orthopnea⁽¹³⁾. Symptoms of dyspnea, fatigue and lower limb edema were evidenced as the main causes of hospitalization⁽¹⁴⁾. Fatigue is also appointed as a factor associated with limitations to maintain a lifestyle compatible with a desirable sense of autonomy and independence⁽¹³⁾. Hence, higher average scores for the variables in the physical dimension are coherent.

In the assessment of the items in the emotional dimension, the question about feeling worried stood out. The literature reveals that the patients need to change their lifestyle to follow the complex therapeutic regimen of the disease. This implies changes in the perceived wellbeing, due to the fact that HF is a chronic condition, which imposes restrictions on the routine habits, limiting the activities of daily living and manifesting in the capacity for autonomy and independence⁽¹⁵⁾. These physical limitations emotionally influence the affected individuals.

In line with this understanding, the feeling of depression is present in most chronic conditions, especially in HF, being a disease with a negative prognosis. The behavioral changes enhance depressive complaints due to the reduced sensory pleasure of food, social contact and one's preferred activities, causing a loss of self-esteem, family and social exclusion⁽¹⁶⁾.

Studies report that the fear of losing self-control and death, as well as social isolation, are the main impacts in these patients' emotional dimension⁽¹⁷⁾. In addition, spending on medicines and continuing medication use to control the disease lead to rises in the domestic budget, as HF has no special statute like other conditions, which can be the main cause of treatment abandonment, thus changing the perceived HRQoL⁽¹⁶⁾.

In addition, the aspect of dietary habits is highlighted which, although not present in a specific dimension, is included in the total MLHFQ score. For this variable, the highest average score of all questionnaire items was found, revealing the population's difficulty to comply with the diet necessary to control their disease, negatively influencing the perceived HRQoL.

In HF patients, excluding high-sodium foods and adding salt to foods after the preparation is fundamental to avoid fluid retention. In addition, fluid restriction and weight monitoring are essential to recognize signs of clinical decompensation⁽¹⁸⁾.

In that sense, some cultural contextualization is needed concerning the local gastronomy, strongly marked by foods rich in trans fats, sodium and simple carbohydrates. In addition, the advance of fast-food networks resulting from the industrialization process contributes to the increased overweight

and malnourishment related to the drop in cereal, fruit and vegetable consumption, thus favoring the emergence of cardiovascular problems⁽¹⁹⁾.

In addition, low-salt diets present low compliance, due to the preparation mode and the seasonings used to enhance the flavor of foods. In Brazil, the daily consumption of sodium chloride is around 11.4g/day, exceeding the daily needs by more than five times⁽¹⁹⁾. In HF patients, the sodium intake should be 2-3g/day at most, avoiding the use of spices and industrialized meals and adapting the sodium restrictions to the patient's clinical condition⁽¹⁸⁻¹⁹⁾. Hence, the health professionals need knowledge to instruct the patients and their relatives about the necessary lifestyle changes for health care in HF patients.

In addition, in the course of the research, the absence of multidisciplinary monitoring programs could be identified, and of nurses in health care planning for outpatients with HF. Although that went beyond the scope of this research, this fact reveals weakness in the care provided and need for the health service management to implement programs with a multidisciplinary focus, as these intend to facilitate the patient's understanding of the disease and to develop strategies to improve the treatment compliance and self-care management⁽²⁰⁾.

There is a consensus that multidisciplinary interventions in HF patients have evidenced a reduction in readmission rates due to decompensation and have contributed to reduce the mortality rates and to increase the compliance with the therapeutic recommendations in the domestic sphere⁽²⁰⁾.

It is highlighted that nursing plays an important role in the multiprofessional team, in view of its educative role, based on educational orientations about the knowledge of the disease, helping the patient to implement self-care measures and recognize the signs and symptoms of decompensation, home visits, besides adjustments in the prescribed dose of diuretics, thus reflecting in a better health-related quality of life for the attended population⁽¹⁾.

In that sense, based on the authors' clinical experience and the scientific evidence of the Brazilian Chronic Heart Failure Guideline of the Brazilian Society of Cardiology⁽¹⁾, in force for the management of HF patients, an intervention proposal was elaborated in accordance with the main variables that negatively affected the perceived HRQoL in the research sample, aiming to guide and instruct the professionals to intervene in the actual and potential health problems, with a view to promoting better acceptance, understanding and compliance with the therapeutic plan established for the HF patients, concurring towards the clinical stability of the disease and towards a good HRQoL.

For the variables like walking and climbing stairs, participating in daily physical exercise programs is suggested, avoiding periods of extreme heat and cold, as well as light and gradual walks, provided that they do not cause intense effort, with a view to strengthening the functional capacity and energy reserves, avoiding episodes of myocardial hypertrophy. What shortness of breath and fatigue are concerned, the accomplishment and gradual decrease of activities of daily living is recommended, favoring a fresh rest environment. Thus, the activities of daily living that enhance episodes of dyspnea can be identified.

Concerning the variables worrying and feeling depressed, the participation in psychological support groups and in relaxation activities (music therapy, yoga, acupuncture) contributes to promote the feeling of wellbeing and emotional balance, motivating the patients towards treatment compliance.

We suggest offering nutritional care at the outpatient level, with individualized monitoring and awareness-raising activities in group, minimizing the harmful effects of inadequate nutrient intake, causing sodium and fluid accumulation, besides identifying signs of cardiac cachexia and fluid retention.

As a limitation in this study, the cross-sectional design can be appointed, which impedes the assessment of the variables' behavior over time and inferences on causal relations among them. Therefore, cohort studies need to be proposed, comparing subgroups that are exposed and not exposed to therapeutic strategies clearly planned by the multiprofessional team, with a view to analyzing the benefits of the therapeutic plan that was implemented. This serves to prevent the decompensation of the disease and preserve a good health-related quality of life, besides further developing these patients' sociodemographic and clinical profile in different regions of the country.

● CONCLUSION

Based on the results, it can be concluded that the patients in this study present a good HRQoL, which can be attributed to the fact that the entire sample came from outpatient care and was classified in NYHA functional classes I and II, therefore not including patients with more advanced symptoms of HF. In addition, it could be identified that, among the variables that negatively affected the perceived HRQoL, the physical aspects and the consumption of smaller quantities of foods stood out.

HF being a chronic condition that requires changes in life and dietary habits, therapeutic programs and strategies need to be implemented with a multiprofessional approach, aiming to minimize the impact of the HF in the physical aspects and in the compliance with the dietary restrictions, keeping in mind that the control of these variables is essential to maintain the functional capacity, coping and clinical stability of the disease.

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