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QUALITY OF LIFE AND ADHERENCE TO DRUG TREATMENT IN PATIENTS WITH REDUCED EJECTION FRACTION HEART FAILURE

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ABSTRACT

Heart Failure (HF) is a chronic condition characterized by the inability of the heart to pump blood efficiently, resulting in symptoms that significantly affect the quality of life of patients. The objective of this study was to evaluate the quality of life and adherence to drug treatment in HF patients in the city of Montes Claros, Minas Gerais, Brazil. This is a quantitative, analytical, and cross-sectional study with HF patients treated at a cardiology referral hospital in Montes Claros (MG), from February to October 2024. A questionnaire containing sociodemographic variables, the Minnesota Living with Heart Failure questionnaire was applied to measure quality of life (QoL), and the Morisky-Green test was applied to assess treatment adherence. The sample consisted of 58 patients, most of whom were male (55.2%), over 35 years of age (96.6%), of brown ethnicity (69%) and with an income of up to one minimum wage (89.7%). The mean score of the patients was 46.4, indicating a moderate QoL, with greater limitations in physical aspects (24.3). Regarding medication adherence, 55.2% showed high adherence, while 41.4% had moderate adherence. HF severely impacts the QoL of patients, especially in physical and emotional aspects. Despite the high adherence to treatment observed in more than half of the patients, socioeconomic factors remain significant barriers. Multidisciplinary strategies are recommended to improve QoL and management of this population.

Keywords: Heart Failure, Quality of Life, Medication Adherence, Public Health.

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INTRODUCTION

Heart failure (HF) is a progressive clinical syndrome generated by the inability of the heart to be able to pump blood to the tissues in order to meet the body's metabolic demands. This dysfunction leads to a drop in cardiac output and/or increased filling pressure, which in turn is responsible for a series of characteristic signs and symptoms that constitute this complex syndrome (SBC, 2018).

The disease is characterized as one of the main causes of morbidity and mortality in the world, it is estimated that it affects about 26 million individuals in the world, a fact that tends to increase as countries reach population aging. In Brazil, the prevalence of HF is approximately 2 million carriers and the incidence is about 240,000 new cases per year, which, when compared to developed countries, represent much higher incidence and prevalence data (Cestari et al., 2022).

HF has been responsible for about 21% of hospital admissions due to circulatory diseases in Brazil and for about 8.8% of hospitalizations for primary care-sensitive conditions, leading to a high number of deaths (Do Amaral Calaça et al., 2021; Justo et al., 2024). Currently, HF is considered a global pandemic, linked to factors such as population senescence and conditions that increase cardiovascular risk, such as Diabetes Mellitus, dyslipidemia, sedentary lifestyle, and obesity (Gomes; Montenegro, 2021).

The physical and psychological dimensions are the most affected in HF patients. Patients affected by the disease have a drop in the energy needed to perform daily activities caused by structural and metabolic changes that these individuals undergo in the skeletal muscles, reducing the ability to perform muscle work. In addition, these patients still complain of respiratory distress, palpitations and precordial pain when performing tasks of moderate to high physical effort (Soares et al., 2008)

In this context, the Minnesota Living With Heart Failure Questionnaire (MLHFQ) was created especially for patients with heart failure, making it more relevant for this population. The MLHFQ can be applied in isolation to assess the quality of life of patients with heart failure or to assess the impact of a specific intervention. (Carvalho et al., 2009). Quality of life (QoL) is understood as a phenomenon related to the individual's perception of their position in life within the context in which they live, including the culture and values that guide their goals, standards, and expectations. Analyzing QoL does not only include factors related to physical, functional, and emotional health or well-being. This assessment requires access to important information about people's lives, such as aspects of work life, family

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life, social and relational life, always considering that the personal perception of those who intend to investigate is essential (Souza et al., 2024).

The management of HF requires a solid evidence base and requires the coordinated collaboration of several health professionals. This encompasses the implementation of both drug and non-drug approaches (Brazil, 2022). The non-pharmacological approach focuses on promoting self-care and presupposes the performance of an interdisciplinary team, with the purpose of mitigating morbidity and mortality and improving the quality of life of individuals affected by the disease (Kamiya et al., 2020). On the other hand, pharmacological treatment seeks to improve the clinical condition, increase functional capacity, and reduce comorbidities, and can be used in combination when appropriate (Brasil, 2018).

The follow-up of patients with heart failure and their multiple comorbidities is most effective when conducted by a multidisciplinary team. This approach is considered the gold standard. The multidisciplinary team should include doctors and nurses who specialize in HF, along with primary care physicians. In addition, it is highly recommended to incorporate other professionals, such as nutritionists, physiotherapists, pharmacists, physical educators, psychologists and social workers, to strengthen the multidisciplinary team (Neubauer; Hemann, 2018).

Thus, in this context, this study aimed to evaluate the quality of life and adherence to drug treatment in patients with HF with reduced ejection fraction in the city of Montes Claros, Minas Gerais.

METHODOLOGY

This is an analytical, quantitative, and cross-sectional epidemiological study developed from August 2023 to November 2024 with patients with Heart Failure (HF) treated at a cardiology referral hospital in Montes Claros, Minas Gerais. The study site is a medium-sized city located in the north of the state, which has experienced rapid growth in the last fifty years. Due to its development, the city has become an important micro-regional health center for neighboring regions (Beirão; Oak; Oliva, 2023).

The population consisted of 58 patients diagnosed with HF with reduced ejection fraction, of both sexes, admitted to a referral hospital for cardiology in Montes Claros, Minas Gerais, Brazil, and who agreed to participate in the study. Data collection was carried out by a specially trained team, using previously validated instruments.

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Sociodemographic variables and assessment of health conditions were identified, in addition to specific instruments for assessing quality of life and medication adherence. To assess quality of life (QoL), a validated instrument specific to people living with HF, the Minnesota Living with Heart Failure Questionnaire (MLHFQ), was used. It is a questionnaire composed of 21 items that address the constraints often associated with the way heart failure impacts patients' ability to live the way they would like. The answers are distributed on a Likert-type frequency scale, with five answer options, from 0 (no limitation) to 5 (maximum limitation). The sum of all the dimensions of the questionnaire generates a total score that can vary from zero to 105, and the lower the score, the better the level of quality of life. Scores up <to 24 points indicate good QoL, scores between 24 and 45 indicate moderate QoL, and scores above 45 points are considered poor QoL (Carvalho et al., 2009).

Medication adherence was assessed using the Morisky, Green and Levine (1986) medication adherence scale, a version adapted for the Brazilian crop. The scale contains four questions related to the factors of non-adherence. The four questions are related to: forgetfulness, carelessness, interruption of the use of the medication due to perceived improvement and interruption of therapy due to the perception of worsening of the clinical condition. Classification is defined as a high degree of adherence, when the answers to all questions are negative. The patient is classified in the medium adherence group when one to two answers are affirmative and, if three or four answers are affirmative, the classification is low adherence.

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS)® program, in a descriptive and analytical way.

This study was approved by the Ethics Committee, under number 6,580,379, and all patients were included after signing the Informed Consent Form.

RESULTS

A total of 58 patients participated in the study, most of whom were male (55.2%); over 35 years of age (96.6%), were brown (69%), with an income of up to 1 minimum wage (89.7%), incomplete elementary school (55.2%), were single (51.7%) and had children (72.4%) (Table 1).

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Table 1. Sociodemographic characterization of patients with heart failure. Montes Claros (MG), 2024.

Variables	Total N (%)
Sex Male	32 (55,2)
Female	26 (44,8)
Ethnicity	
Brown	40 (69,0)
Non-Brown	18 (31,0)
Monthly Income Up to 1 minimum wage	52 (89,7)
More than 2 minimum wages	6 (10,3)
Age	
18-35 years	2 (3,4)
>35 years old	56 (96,6)
Schooling Incomplete fundamental	32 (55,2)
Complete Fundamental	18 (31)
Incomplete high school	4 (6,9)
High School	4 (6,9)
Marital status Single	30 (51,7)
Married	28 (48,3)
He has children No	8 (27,6)
Yes	50 (72,4)

Source: Data generated by the researcher

The patients' scores obtained during the QoL assessment are shown in Table 2. The overall average was 46.4 with better performance for emotional aspects (6.0).

Table 2. Quality of life of patients with heart failure. Montes Claros (MG), 2024.

Minnesota Living with Heart Failure Questionnaire **(pontuação média)**	
Total Score	46,4 (23 - 74)
Physical aspects	24,3 (9- 45)
Emotional aspects	6,0 (0 - 23)
Other aspects	16,2 (6 - 26)

Source: Data generated by the researcher

Regarding medication adherence, most patients demonstrated a high degree of adherence (55.2%) (Table 3).

Table 3. Classification of medication adherence of patients with heart failure. Montes Claros (MG), 2024.

Variables	N/%
High degree of adherence	32 / 55,2
Average Membership	24 / 41,4
Low adhesion	2/3.4

Source: Data generated by the researcher

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DISCUSSION

With the increase in life expectancy of HF patients, it has become of great importance to assess the quality of life of patients affected by this disease, in order to identify the ways in which HF affects the individual as a whole and seek to offer a better quality of life to patients (Silva et al., 2024).

This study evaluated quality of life (QoL) and adherence to drug treatment in patients with Heart Failure with Reduced Ejection Fraction, treated at a cardiology referral hospital in Montes Claros, Minas Gerais, Brazil. The results showed that most patients were adults over 35 years of age (96.6%), self-declared brown (69%) and belonging to less favored socioeconomic classes, with a monthly income of up to one minimum wage (89.7%) and low education (55.2%).

These findings are similar to those found in other studies conducted in the country (Carvalho et al., 2019; Foureaux Scariot et al., 2020) and reflect the sociodemographic profile typical of developing countries, where factors such as limited access to health services and endemic conditions, such as Chagas disease, directly influence the prevalence and management of heart failure (Cestari et al., 2022; Do Amaral Calaça et al., 2021)

Factors such as income and social support play a significant role in the quality of life of heart failure patients. Thus, patients with low income and difficulty in accessing specialized services demonstrate a poor quality of life, a fact verified in the present study where most patients had an income of up to 1 minimum wage, which may have impacted the quality of life of these patients. Although Brazil offers free treatments to these patients through the Unified Health System (SUS), challenges such as poor infrastructure and lack of specialized services may limit the benefits of SUS in less developed regions, such as the one studied (Neubauer; Gray; Hemann, 2018).

In the present study, the mean MLHFQ score was 46.4, indicating poor quality of life. However, the domains related to emotional aspects and others showed better scores and good quality of life in relation to these aspects. These dimensions reflect the limitations imposed by HF, such as difficulty in performing basic tasks and the psychological impact of living with a chronic disease. The comparison with international studies highlights the seriousness of the Brazilian scenario, where QoL is influenced by economic factors, barriers to access to treatment, and local epidemiological characteristics (Behlouli et al., 2009; Hsu et al., 2018).

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In general, HF patients have certain restrictions in their standard of living due to the symptoms of the disease itself. Many patients become limited in performing tasks that require greater physical effort, mainly due to the exacerbation of signs and symptoms such as dyspnea, orthopnea, chest pain, and fatigue. This physical impairment can also contribute to changes in the patient's psychic state, generating anxiety and depression (Soares et al., 2008).

Heart failure is linked to a challenging prognosis, frequent health complications, complex therapies, and the use of multiple medications, which require lifestyle changes and have an impact on the quality of life of the patient and their families. Therefore, it requires continuous monitoring by the health team. This team should be particularly attentive to the early detection of depressive symptoms and cognitive changes, which can directly influence treatment adherence. The manifestations of psychological problems can appear both at the beginning and throughout the course of the disease (Rohde et al., 2018).

Regarding treatment adherence, 55.2% of the patients had high medication adherence, while 41.4% were classified as having moderate adherence. This result reflects a constant challenge in the management of HF. Comparatively, in a study conducted in São Paulo, they observed an adherence rate of 24%, lower than that found in the present study, with low adherence being one of the main factors associated with episodes of HF decompensation (Mangini et al., 2008). In contrast, an integrative review focused on adherence assessment tools reported higher rates, reaching 72.4% in populations that received continuous educational support and multiprofessional follow-up. These findings indicate that interventions aimed at raising awareness and social support can be decisive in improving medication adherence (Rocha et al., 2012).

The findings of this study confirm that HF substantially compromises the QoL of patients, with a greater impact on the physical and emotional dimensions. In addition, adherence to drug treatment, although moderate, still shows room for improvement, especially in economically vulnerable populations, such as the one analyzed. Finally, this study highlights the need for strategies targeted at vulnerable populations, considering both clinical challenges and social determinants of health. Integrated approaches, which combine pharmacological treatments and educational and psychological support programs, are crucial to mitigate the limitations imposed by HF and promote a better quality of life for these patients (Rohde et al., 2018).

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CONCLUSION

HF is a serious and disabling condition that has several implications in the life of the patient, from physical to mental, intensely affecting the quality of life and prognosis of patients. Despite this, adherence to therapy is a factor that benefits and positively affects the quality of life and survival of patients with this condition.

From this study, it was possible to perceive impairments in the QoL of HF patients, especially in the physical (restriction of the ability to perform tasks) and emotional (psychological impacts of the disease on individuals) spheres, corroborating several studies that demonstrate this impairment. In addition, when analyzing the medication adherence of the patients submitted to the research, a high percentage of these patients classified as "moderate adherence" is found, also demonstrating the presence of obstacles to adequately treat these patients and the need to think of strategies to overcome these obstacles and disseminate the indispensability of the patient's commitment to treatment. Investing in research, prevention, and integrated care can provide significant advances in improving the quality of life of patients with heart failure.

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