

## QUALITY OF LIFE IN PATIENTS WITH CHRONIC HEART FAILURE

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### Abstract

**Background:** The significance of evaluation of quality of life related to health lies in identification of health problems, observation of changes, responses to treatment, making communication more effective and in the increase of patient adherence towards treatment. Chronic heart failure significantly affects the lives of patients and their close relatives. The goal of comprehensive treatment of the disease is mainly the improvement of quality of life that includes the reduction of symptoms, increased tolerance to stress, reduced mortality and prolongation of patient's life.

**Research sample and methods:** Sampling: there were selected 116 outpatients and inpatients (76 men and 40 women), undergoing treatment for chronic heart failure for at least one year, in functional NYHA classification II – IV.

For data acquisition we used the method of standardised questionnaire WHOQoL (The World Health Organization Quality of Life) – BREF (shortened version, 26 item version of the questionnaire WHOQoL – 100), assessing the quality of life in the sphere physical and psychological, in the field of social relationships and the environment.

**Results:** In the patients with chronic heart failure there was obtained significantly lower quality of life and satisfaction with health (Q1 – 2.9; Q2 – 2.7). Statistical testing proved the following correlations: between the age of a patient with chronic heart failure and his or her satisfaction with health and life; between gender and satisfaction with health and life; between the length of treatment, the incidence of negative emotions and assessment of quality of life.

**Conclusions:** Chronic heart failure has a negative impact on the quality of life in patients with this disease.

**Key words:** Health related quality of life, questionnaire WHOQoL – BREF, patients with chronic heart failure

### Introduction

Health related quality of life (HRQoL) includes the condition of physical health; psychological well-being; satisfactory perception of social relationships and the environment; performing everyday activities, employment and financial security. HRQoL is defined as subjective wellbeing, that is most often worsened by the disease, trauma, treatment, and its restrictive effect on usual lifestyle of the afflicted individual. Besides the indicators of treatment success there are observed also subjective and objective data of overall physical and mental condition of a patient, where there belong the following: experiencing pain, coping with everyday self-care, intensity of fatigue, the predominant character of emotional tuning, anxiety, stress, and depression [13]. Experiencing HRQoL is changing during the disease and is getting new dimension [10]. The significant factor is difference between patients' perception of health status and real health status. People suffering with certain illness with which they cope and adapt their expectations and life plans to the illness, tend to have a better quality of life than individuals who do not accept their illness – real health condition [18]. The life values and priorities for every person gradually change depending on his or her current life conditions for example during sudden life-threatening diseases, aging and adaptation to chronic illness. From this point of view the determinants and evaluation of quality of life are very specific and individual in every single patient [2]. Every patient must come to terms with the losses that are directly or indirectly related to the disease. Limited opportunities do not necessarily mean the loss of quality of life [19]. The attention to health-related quality of life (HRQoL) started to be devoted by professionals from the very beginning to oncological patients. Later on, due to the aging of population, there started changes in morbidity and increased the spread of chronic disease also to other areas. HRQoL is a good indicator of the quality of health care provision, assessing the efficiency of carried out interventions and it is an important indicator for the assessment of health care needs and the analysis of costs [8]. Chronic illnesses represent the diseases with various etiology, pathogenesis, symptomatology, the presence of pain, degree of physical and psychological discomfort, degree of severity and different prognosis. When we compare them to late treatment, up-to-date treatment of chronic illnesses achieved significant progress in health care and treatment procedures that not only prolong the life of a patient, but also raise a number of ethical issues related to the quality of life in patients. There occur some ethical dilemmas whether the demanding and stressful treatment has also life-enhancing benefits for patients [5]. Heart failure belongs to major chronic diseases.

### Theoretical Background

Chronic heart failure is characterized as an illness that occurs in patients suffering with cardiac dysfunction and wide range of symptoms. The most serious symptoms include breathlessness, exertional initially, and later also resting. For this disease is characteristic nocturia caused by increased blood flow in the kidney in the position

lying down; the next is coughing, peripheral edema, fatigue, muscle weakness and finally impaired exercise tolerance. The increasing body weight is one of the most important symptoms due to salt and water retention in organism. And conversely, weight loss – and related weight loss until in patient occurs a typical symptom of the terminal phase of the disease [20]. The phase of heart failure can be assessed according to exercise tolerance. In the practice there is mainly used functional classification according to New York Heart Association (NYHA). This classification distinguishes functional classes I to IV [9, p. 9]. *NYHA – I: Without restriction of physical activity: Daily exertion does not cause feelings of fatigue, palpitations or shortness of breath. Patients can handle usual physical stress, including brisk walking or running 8 km per hour. NYHA – II: Smaller restriction of physical activity: Tiredness is exhausting, causes palpitations and shortness of breath. Light physical activity can be handled by the sick, but a common one causes fatigue and shortness of breath. NYHA – III: Considerable restriction of physical activity: Patients are short-winded or fatigued during elementary daily activities (dressing, washing, etc.). During the rest they have no difficulties. NYHA – IV: Patients are restricted to a significant way by problems during any activities.* The shortness of breath and palpitations occur even at rest. Patients are unable to independent living [17]. Chronical heart failure is related to frequent occurrence of some illnesses which very often have unfavourable effect on the prognosis and quality of life of a patient. Among the frequent comorbidity of heart failure occur anaemia, hepatic insufficiency, renal insufficiency, depression, sleep disorders, cachexia and other diseases [9]. Except of the basic illness there is needed to take into advantage the increasing age of population and polypharmacy that significantly affect quality of life. The side effects of prevalently used medicaments can mean a greater problem than illness for some patients. The goal of the treatment of chronic heart failure is mainly the improvement of quality of life, it means the decrease of patient's symptom remoteness, the increased tolerance of burden, decrease of mortality and prolongation of patient's life. The sequence and importance of these objectives may differ among individual patients. The decreased mortality and slowing the progression of illness is the priority for ill with less significant symptoms. For severely ill the improvement of diagnosis is less significant. They expect from the treatment the relief from problems and improved quality of life [17]. The treatment then is comprehensive. It includes regimen and dietary precautions, pharmacological, surgical and supportive treatment. In the adaptation of lifestyle there plays the important role educational activity of a nurse. Education and psychological support should be provided to a patient and his/her relatives always in contact with healthcare professionals. The patients should understand their illness and its treatment, so as their adherence to the procedures was as good as possible. The quality of life in patients with advanced heart failure is very low. The reason is the presence of problems and decreased burden tolerance, the necessity to repeat admissions for decompensated disease, embolic complications, heart rhythm disturbances and others [9]. According to foreign studies 49 % patients classified with NYHA III – IV expressed their wishes to give half of remaining period of life for better health condition, especially psychological [16]. Five-year mortality in patients with chronic heart failure reaches 50 %. It is the most frequent cause of hospitalisation in the persons over 65 years. The problem of this illness became so weighty that according to other European countries (Holland, Sweden and England, there in the Czech Republic started to be established specialised outpatient care centres for heart failure in the Czech Republic [15]. The programmes of these specialised outpatient clinics, conducted by well-trained general nurses include specialised intervention before the patient discharge from hospital, in home care or multidisciplinary care for patients with chronic heart failure. The nurses educated in pathophysiology, clinics and in the treatment of chronic heart failure, are in regular telephone and personal contact with patients and are able to modify independently pharmacological and nonpharmacological therapy. Important is also the educational role of nurses to focus on patient and his/her family members who share with him/her in a household [20]. Specialised care leads ultimately to reduced number of hospitalisations for congestive heart failure and thus to economic savings. The main purpose of these efforts is chiefly the improvement of a patient's quality of life [12]. Our research was focused on verifying the quality of life in a group of patients with chronic heart failure.

### Research Goals

The main research objective was to determine health related quality of life in patients with chronic heart failure. Sub-objectives were to determine:

- Whether there is a correlation between the age of these patients and their satisfaction with health and life.
- Whether there is a correlation between the length of the treatment of these patients and their evaluation of quality of life.
- Whether there is a correlation between the length of the treatment of these patients and the frequency of their negative feelings.

### Methodology and Sample

To receive the data we used the method of standardised questionnaire WHOQoL (The World Health Organization Quality of Life) – BREF (26-item shortened version of the questionnaire WHOQoL – 100), assessing quality of life in the physical and mental sphere, in the sphere of social relationships and environment.

The research sample consisted of 116 out-patients and in-patients undergoing for chronic heart failure for 1 year, in the functional NYHA classification II – IV. The research of inpatients on Cardiology Department of Internal Clinic of KNTB Zlín, a. s. a. and the research of outpatients from two cardiology outpatient departments started in the October 2014 and lasted until February 2015. The respondents were informed not to think of their life of the last month and indicated the items in the questionnaire. After one-dimensional analysis of numerosness there were made statistical tests of correlations (correlation of the selected factors). The final results of test statistics (Pearson's Chi-Quadrat, resp. statistics from Fisher's test) were assessed for the level of significance <0.05. Interdependence between the factors tested was monitored using rank correlation coefficients Kendall Tau-b, Kendall Tau-c, Goodman and Kruskal Gamma and Spearman's rank correlation coefficient. Based on the obtained coefficient values there was assessed median interdependence between tested factors.

## Research Results

Tables 1 to 6 characterise the research sample of respondents:

*Table 1 Research sample and sex of respondents*

	Absolute frequency (n)	Relative frequency (%)
<b>Men</b>	76	65.5
<b>Women</b>	40	34.5
<b>Total</b>	116	100.0

*Table 2 Age of respondents*

	Absolute frequency (n)	Relative frequency (%)
<b>Until 50 years</b>	18	15.5
<b>51 – 60 years</b>	13	11.2
<b>61 – 70 years</b>	29	25.0
<b>71 years and more</b>	56	48.3
<b>Total</b>	116	100.0

*Table 3 Socio-economic status of respondents*

	Absolute frequency (n)	Relative frequency (%)
<b>Employed</b>	18	15.5
<b>Disabled pensioners</b>	16	13.8
<b>Elderly pensioners</b>	82	70.7
<b>Total</b>	116	100.0

*Table 4 Duration of the treatment for chronic heart failure*

	Absolute frequency (n)	Relative frequency (%)
<b>1 – 3 years</b>	31	26.7
<b>4 – 6 years</b>	20	17.2
<b>7 – 10 years</b>	41	35.3
<b>11 – 14 years</b>	15	12.9
<b>15 – 20 years</b>	9	7.9
<b>Total</b>	116	100.0

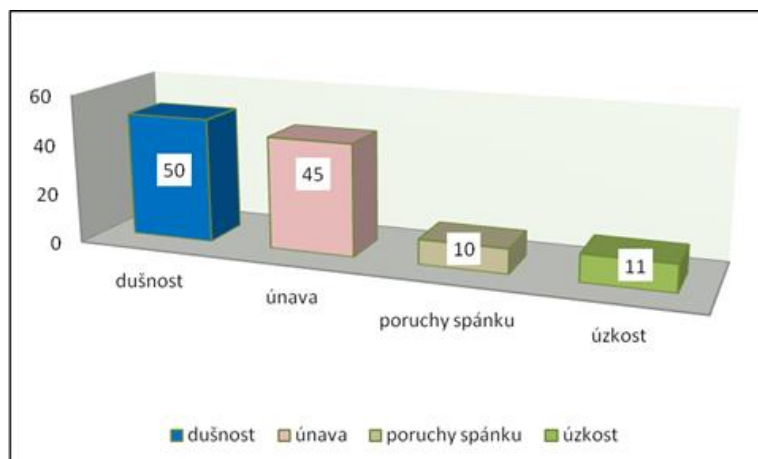
*Table 5 Number of hospitalisations in the last year*

	Absolute frequency (n)	Relative frequency (%)
<b>0</b>	29	25.0
<b>1</b>	36	31.0
<b>2</b>	31	26.7
<b>3</b>	12	10.3
<b>4</b>	8	7.0
<b>Total</b>	116	100.0

**Table 6** Phase of disability according to NYHA

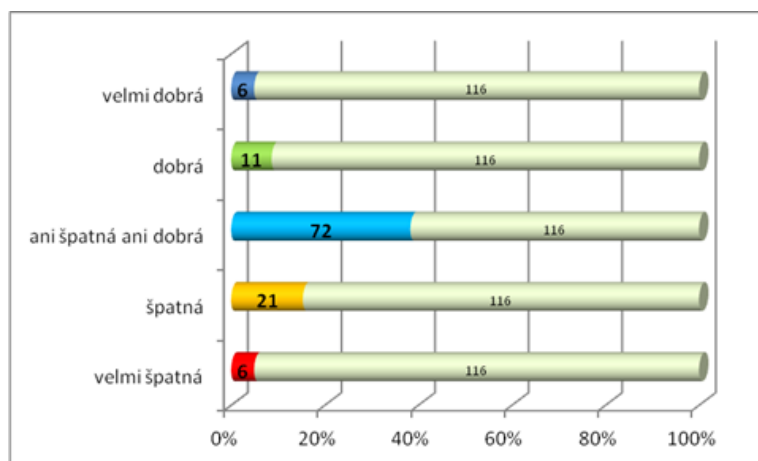
	Absolute frequency (n)	Relative frequency (%)
<b>NYHA II</b>	27	23.3
<b>NYHA III</b>	54	46.5
<b>NYHA IV</b>	35	30.2
<b>Total</b>	116	100.0

Other findings are shown in the figures 1 to 20.

**Figure 1** Predominantly bothersome symptom

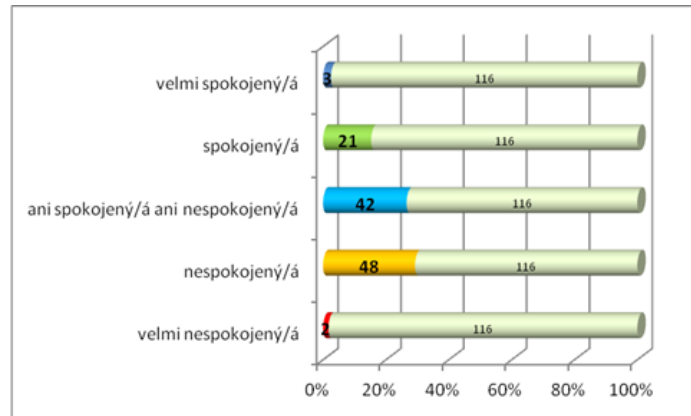
**Legend:** blue – shortness of breath, pink – fatigue, olive – sleep disorder, green – anxiety

The shortness of breath is the most bothersome symptom according to 50 (43.1 %) of respondents. Fatigue is considered the second most serious symptom according to 45 (38.8 %) of respondents. 11 (9.5 %) of respondents said they were anxious and 10 (8.6 %) of respondents said they suffered from sleep disorder.

**Figure 2** Assessment of quality of life

**Legend:** Top to bottom: very good, good, neither bad – nor good, bad, very bad

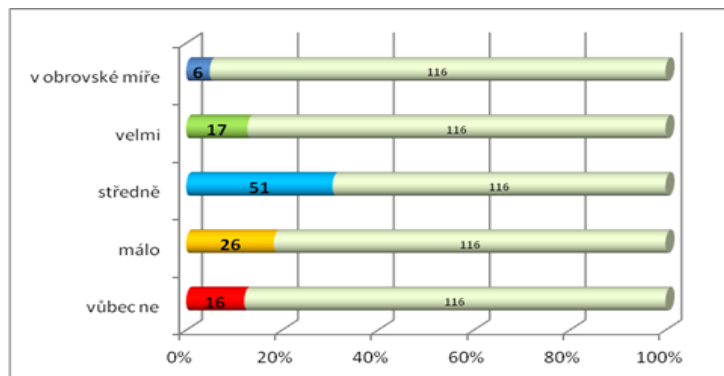
Up to 72 (62 %) respondents said that their quality of life over the past four weeks was neither bad nor good. 21 (18.1 %) respondents perceived their quality of life as poor. 6 respondents (5.2 %) considered their quality of life to be very poor. 11 (9.5 %) respondents identified their quality of life as good and only 6 (5.2 %) respondents said that their quality of life was very good.



**Figure 3** Satisfaction with health

**Legend:** Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

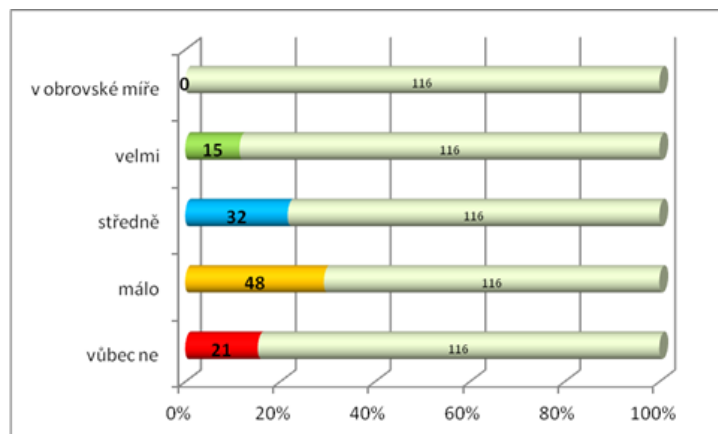
Up to 48 (41.4 %) respondents said that in the last 4 weeks they were not satisfied with their health; 2 (1.7 %) respondents were not satisfied; 42 (36.2 %) respondents did not select neither the dimension of satisfaction nor dissatisfaction; 21 (18.1 %) respondents were satisfied with their health 3 (2.6 %) respondents were very satisfied with their health.



**Figure 4** Limitations in daily activities for physical pain

**Legend:** Top to bottom: to a great degree, very, medium, a bit, not at all

Up to 51 (44 %) respondents identified limitations in daily activities for physical pain as moderate. 26 (22.4 %) of respondents depicted it as low. 17 (14.6 %) of respondents depicted it as very huge. 16 (13.8 %) of respondents were not limited for physical pain at all and 6 (5.2 %) of respondents said that physical pain restricted their daily activities very much.



**Figure 5** Enjoyment of life

**Legend:** Top to bottom: to a great degree, very, medium, a bit, not at all

Maximum 48 (41.4 %) respondents did not enjoy their life. 32 (27.6 %) respondents enjoyed their life medially. 21 (18.1 %) respondents did not enjoy their life at all. 15 (12.9 %) respondents enjoyed their lives very much.

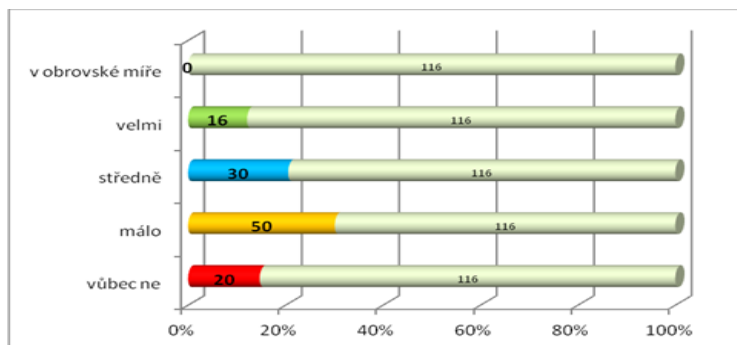


Figure 6 Perceived meaning of life

Legend: Top to bottom: to a great degree, very, medium, a bit, not at all

Up to 50 (43.1 %) respondents depicted their meaning of life as small. 30 (25.9 %) respondents depicted it as “medium”. 20 (17.2 %) respondents believed their life did not have meaning at all. 16 (13.8 %) respondents believed their life had a great sense.

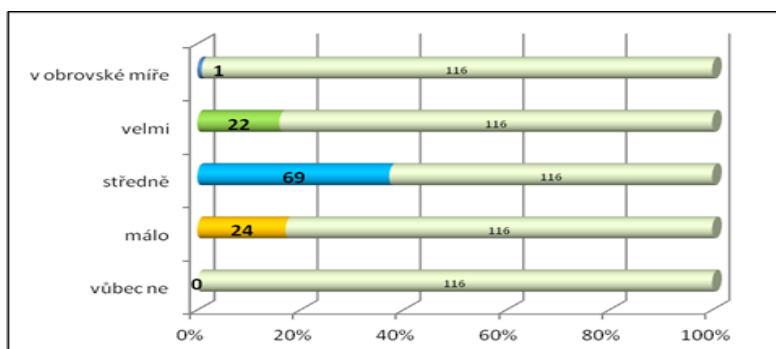


Figure 7 Feeling of safety

Legend: Top to bottom: to a great degree, very, medium, a bit, not at all

Up to 69 (59.5 %) respondents said their feeling of safety in everyday life was medium. 24 (20.7 %) respondents said they felt a bit safe. 22 (19 %) respondents felt very safe and one (0.8 %) respondent felt a great degree of safety.

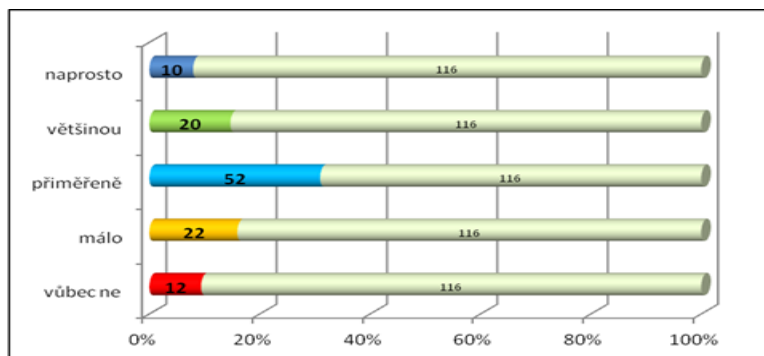
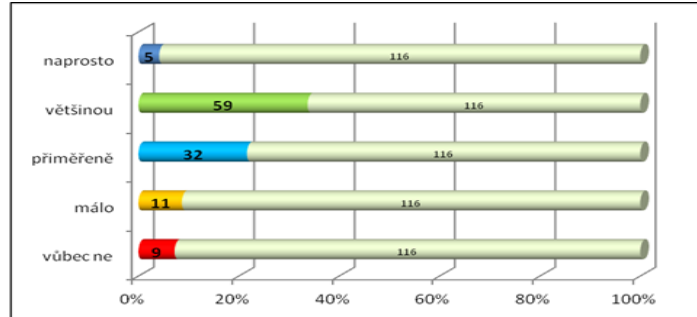


Figure 8 Perceived plenitude of life energy in everyday life

Legend: Top to bottom: absolutely, mostly, adequately, a bit, not at all

Maximum 52 (44.8 %) respondents perceived life energy in everyday life in adequate plenitude.

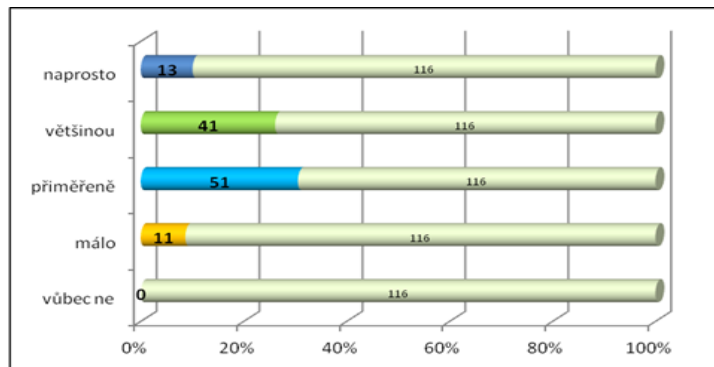
22 (19 %) respondents believed they had “a bit” of life energy. 20 (17.3 %) respondents perceived adequate amount of life energy. 12 (10.3 %) respondents said they did not perceive enough life energy in their everyday life at all. 10 (8.6%) respondents absolutely perceived enough life energy in their everyday life.



**Figure 9** Financial security

**Legend:** Top to bottom: absolutely, mostly, adequately, a bit, not at all

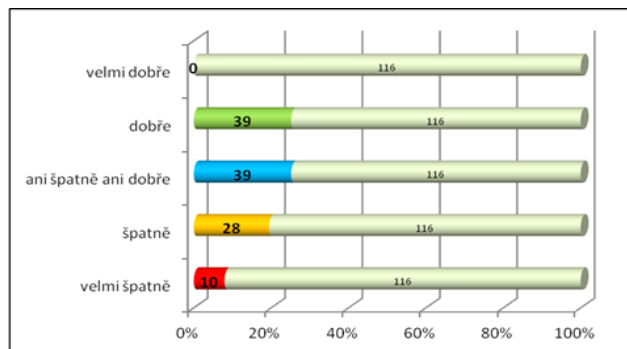
Up to 59 (50.8 %) respondents said they had enough money to satisfy their needs. 32 (27.6 %) respondents said they had adequate financial security. 11 (9.5 %) respondents said they had a bit money. 9 (7.8 %) respondents said they had no money. 5 (4.3 %) respondents said they were absolutely financially secure.



**Figure 10** Accessibility of information for everyday life

**Legend:** Top to bottom: absolutely, mostly, adequately, a bit, not at all

Up to 51 (44.0%) respondents said they had average amount of information for everyday life. 41 (35.3 %) respondents said they mostly had enough information. 13 (11.2 %) respondents said they had absolutely enough information. 11 (9.5 %) respondents said they had a bit information.



**Figure 11** Movement out of home

**Legend:** Top to bottom: very good, good, neither good nor bad, bad, very bad

39 (33.6 %) respondents moved very well out of home. The others 39 (33.6 %) movement out of home is neither good nor bad. The answer was incorrectly labelled in 28 (24.1 %) respondents and very bad movement was proved in 10 (8.7 %) respondents.

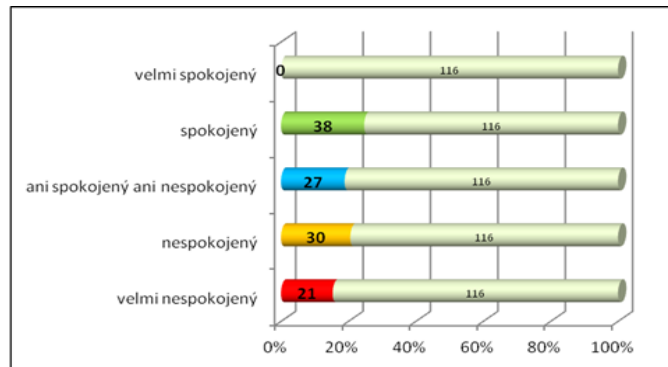


Figure 12 Satisfaction with sleep

Legend: Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

Up to 38 (32.8 %) respondents were satisfied with their sleep. 27 (23.3 %) respondents were neither satisfied nor dissatisfied. 30 (25.8 %) respondents were not satisfied with their sleep. 21 (18.1 %) respondents were very dissatisfied with their sleep.

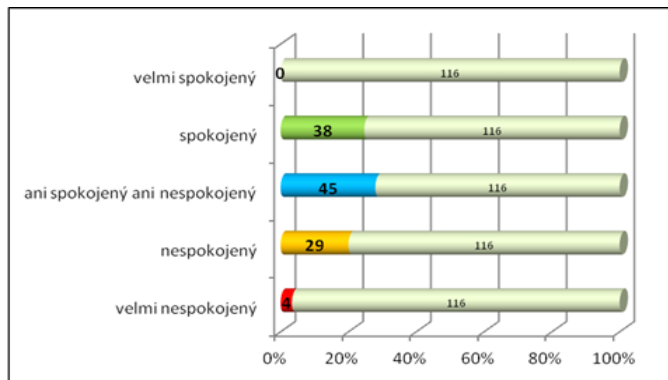


Figure 13 Satisfaction with the ability to perform everyday activities

Legend: Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

Up to 45 (38.8 %) respondents were neither satisfied nor dissatisfied with their ability to perform everyday activities. 38 (32.8 %) respondents were not satisfied. 29 (25 %) respondents were not satisfied. 4 (3.4 %) respondents were very dissatisfied.

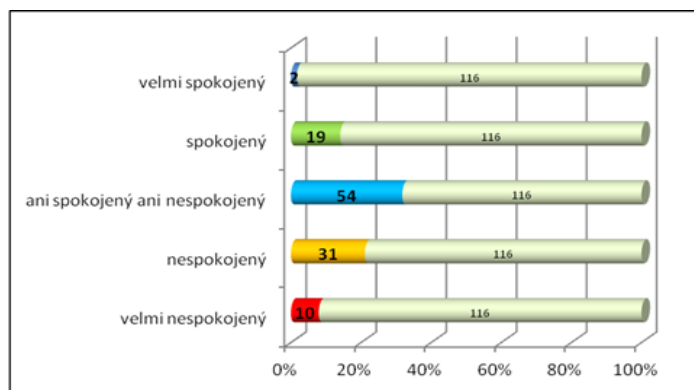


Figure 14 Satisfaction with the ability to work

Legend: Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied



Up to 54 (46.6 %) respondents were neither satisfied nor dissatisfied with their ability to work. 31 (26.7 %) respondents were not satisfied. 10 (8.6 %) respondents were very dissatisfied. 19 (16.4 %) respondents were satisfied. 2 (1.7 %) respondents were very satisfied with their ability to work.

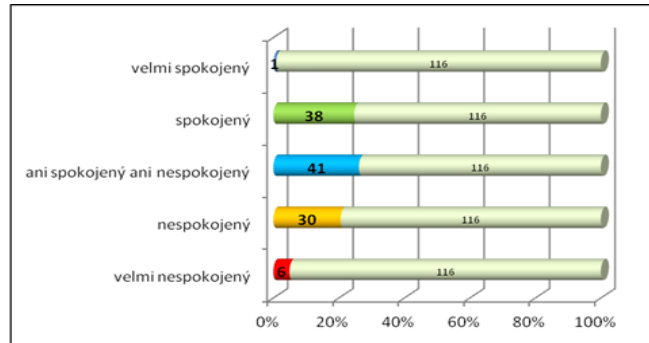


Figure 15 Satisfaction with "self"

Legend: Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

Up to 41 (35.3 %) respondents said they were neither satisfied nor dissatisfied with themselves. 38 (32.8%) respondents said they were satisfied with their themselves. 30 (25.9 %) respondents said they were not satisfied with themselves. 6 (5.2 %) respondents said they were very dissatisfied with themselves. 1 (0.8 %) respondent said he was very satisfied with himself.

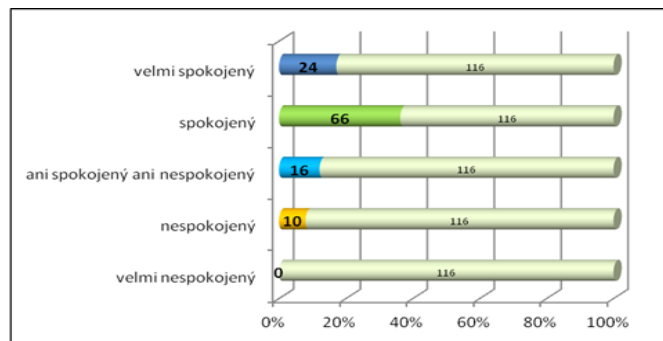


Figure 16 Satisfaction with personal relationships

Legend: Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

Up to 66 (56.9 %) respondents were satisfied with personal relationships. 24 (20.7%) respondents were very satisfied. 16 (13.8%) respondents were neither satisfied nor dissatisfied. 10 (8.6%) respondents were dissatisfied with their personal relationships.

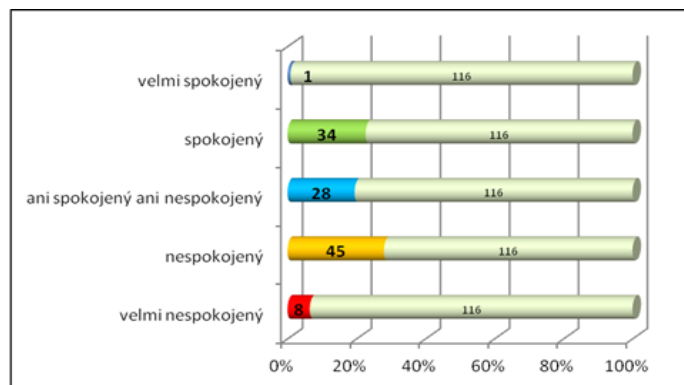
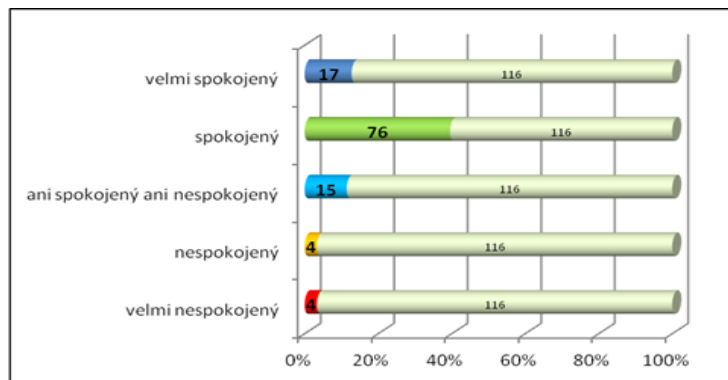


Figure 17 Sexual satisfaction

Legend: Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

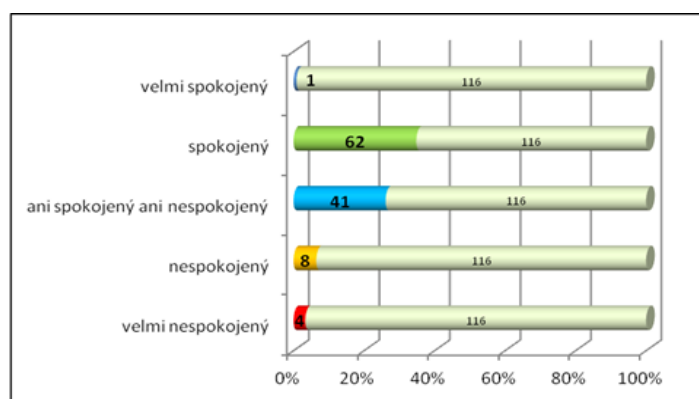
Up to 45 (38.8 %) respondents said that their sexual lives were miserable, 8 (6.9 %) respondents were quite sexually dissatisfied. 34 (29.3 %) respondents said they were happy with their sexual lives. 28 (24.1 %) respondents were neither satisfied nor dissatisfied and finally 1 (0.9 %) respondent was very happy with his sexual life.



**Figure 18** Satisfaction with the availability of healthcare

**Legend:** Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

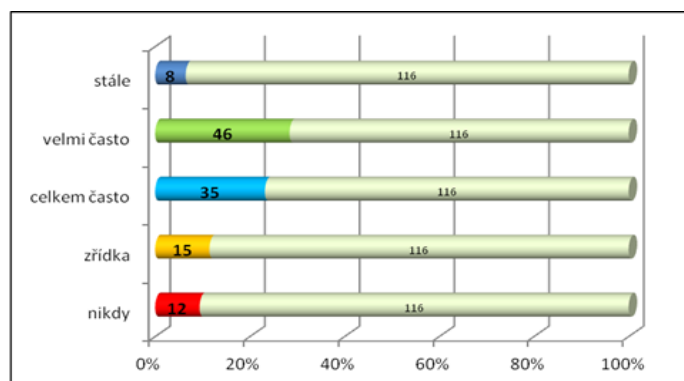
Up to 76 (65.6 %) respondents were satisfied with the availability of healthcare. 17 (14.7 %) respondents were highly satisfied. 15 (12.9 %) respondents were neither satisfied nor dissatisfied. 4 (3.4 %) respondents said they are dissatisfied with the availability of healthcare. 4 (3.4 %) respondents were very unhappy with the availability of healthcare.



**Figure 19** Satisfaction to get there where it is needed

**Legend:** Top to bottom: very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied

Up to 62 (53.4 %) respondents said they were satisfied with how they manage to get there where they need to get to. 41 (35.4 %) respondents said they were neither satisfied nor dissatisfied. 8 (6.9 %) respondents said they were not satisfied. 4 (3.4 %) respondents indicated substantial dissatisfaction and finally 1 (0.9 %) respondent was highly satisfied.



**Figure 20** Frequency of negative feelings

**Legend:** Top to bottom: always, very often, quite often, rarely, never

46 (39.6 %) respondents reported that they had very often the following negative feelings: bad mood, anxiety, depression very often. 35 (30.2 %) respondents had them quite often, 15 (12.9 %) respondents seldom, 12 (10.3 %) respondents had them never and finally 8 (7 %) respondents said that they continued to have negative feelings.

The correlation between the age of the respondents and their satisfaction with health was statistically tested. Test statistics value reached 45.5 at a significance level of  $<0.05$ . Between the age of the respondents and their satisfaction with health was found statistical dependence. The degree of mutual correlation between the age of the respondents and their satisfaction with health was monitored by coefficients Kendall Tau-b, Kendall Tau-c, Goodman and Kruskal Gamma and Spearman's rank correlation coefficient. The values of those coefficients were proven within the range from 0.259 to 0.419. From the measured values of coefficients the lesser degree of interdependence between the age of patients and their satisfaction with health was revealed. Correlation also indicated a positive correlation (coefficients are  $> 0$  which is a direct dependence).

The correlations of selected factors according to the objectives were statistically tested.

The correlation of the respondents' satisfaction with life (expressed by the question *How much do you enjoy your life?*) and their age were statistically tested. Test statistics value reached 45.1 at a significance level of  $<0.05$ . Between the age of the respondents and their life satisfaction there was found statistical dependence. Mutual correlation between the age of the respondents and their life satisfaction was examined by the coefficient Kendall Tau-b, Kendall Tau-c, Goodman Kruskal Gamma and Spearman's rank correlation coefficient. According to the determined values of coefficients we calculated medium correlation between the age of patients and their life satisfaction, because the values of those coefficients were from 0.424 to 0.639. Since the coefficients were  $> 0$ , the correlation indicated positive correlation (so called direct correlation).

The relationship between life satisfaction of respondents and gender was statistically tested (It was expressed by the question: *How much do you enjoy your life?*). The value of test statistics reached 14.3 at the significance level of  $<0.05$ . There was proven correlation between the sex of the respondents, their age and life satisfaction. It was examined by means of these coefficients: Kendall Tau-b, Kendall Tau-c, Goodman Kruskal Gamma and Spearman's rank correlation coefficient. The values of these coefficients were proven in the range from -0.196 to -0.339. According to the determined values of coefficients there was revealed lower degree of mutual correlation between the gender of respondents and their life satisfaction. Correlation proved negative correlation (coefficients were  $<0$  – which is an indirect correlation).

The correlation of the treatment responders and their quality of life has been statistically tested. Test statistic value reached 42.9 at a significance level of  $<0.05$ . Between the treatment period of patients and their assessment of quality of life there was observed correlation. Mutual correlation between the patients and their evaluation of quality of life was measured by the coefficients Kendall Tau-b, Kendall's Tau-c, Goodman Kruskal Gamma and Spearman's rank correlation coefficient. The values of those coefficients were found in the range from 0.028 to 0.051. Identified coefficients showed that the duration of treatment for patients and their assessment of quality of life there was proven correlation, but the intensity of this dependence was very low. According to the calculated values of significance there were tested coefficients of intensity correlating insignificantly different from 0. There was found positive correlation (coefficients are  $> 0$  – which is a direct correlation).

The correlation between the respondents' treatment and frequency of their negative feelings was statistically tested. The most important characteristics was the value of Fisher test 64.3, which was significant at the significance level of  $< 0.05$ . Between the period of patients' treatment and the frequency of their negative feelings there was proven correlation. Mutual correlation between the patients' treatment and the frequency of their negative feelings was assessed using coefficients Kendall Tau-b, Kendall Tau-c, Goodman Kruskal Gamma and Spearman's correlation coefficient. The values of those coefficients were proven in the range from 0.210 to 0.301. Based on the obtained coefficients it was clear that the time between the treatment and the frequency of patients' negative feelings there was proved correlation. However, the intensity of this correlation was lower. According to calculated values of significance the coefficients of intensity tested were significantly different from 0 at the significance level  $<0.05$ . Correlation indicated positive correlation (coefficients are  $> 0$  which is a direct correlation).

The results of the analysis of data obtained by the questionnaire were compared to the standard WHOQoL-BREF. There were compared items Q1 and Q2 through which respondents assessed their quality of life and life satisfaction. As shown in table 29, the assessment of quality of life and satisfaction with health is significantly lower than the average value of the indicated standard WHOQoL-BREF.

**Table 7** Comparison of items Q1 and Q2 to the norm BREF

	Assessment of respondents	Population standards WHOQoL-BREF		
		minimum	average	maximum
<b>Q1 / Quality of life</b>	<b>2.90</b>	1.00	<b>3.82</b>	5.00
<b>Q2 / Satisfaction with health</b>	<b>2.74</b>	1.00	<b>3.68</b>	5.00

## Discussion

By comparing the results of our questionnaire in patients with chronic heart failure with the standard WHOQoL-BREF for a healthy population there was proven significantly lower quality of life and satisfaction with health (Q1 – 2.9; Q2 – 2.7). Our research survey showed worse results than for example the study by Gígalová, V. [4] conducted in the Czech Republic. The authoress focused on the quality of life of older people with heart failure while she reached better average values (Q1 – 3.07; Q2 – 2.65).

The authoress also discovered that:

- The gender of seniors had an impact on the subjective sensation of stress during shortness of breath.
- The importance of heart failure in the elderly had an impact on frequency of their hospitalisations in the last year.
- The number of visits at outpatients for heart failure had an impact on the number of hospitalizations in the last year.
- The severity of heart failure in seniors had an impact on how they evaluated their HRQoL.
- Heart failure had also impact on seniors' satisfaction with their health.
- The severity of heart failure had impact on seniors' satisfaction with their sleep.
- The severity of chronic heart failure affected elderly patients in experiencing negative emotions.
- The severity of chronic heart failure affected the level of sexual satisfaction in seniors.

The results of our research correspond with the research findings of other published studies. The cross-sectional study of the authors Heo, S., et al. [6] conducted in the U.S.A., showed similarities between depressive symptoms and sodium intake with physical symptoms ( $F = 11.63$ ,  $p < 0.001$ ). The presence of depressive symptoms had an impact on patients' quality of life ( $P = 9.917$ ,  $p < 0.001$ ). The presence of physical symptoms affected the depressive symptoms and quality of life.

The research study of Heo S. et al. [6], conducted in the U.S.A. on 147 patients with chronic heart failure proved better quality of life in the group with older patients, with less comorbidities and better economical status. Higher economical status affected their further survival without clinical events.

Cross-sectional study of the authors Moser, D. K., et al. [11], conducted in the U.S.A. on 603 patients with chronic heart failure in four age groups ( $\leq 53$ , 54 to 62, 63 to 70 and  $\geq 71$  years). There was assessed worse quality of life in the youngest age group ( $\leq 53$ ). The best evaluated was in the two oldest groups of 63 to 70 and  $\geq 71$  years). Anxiety, depression and functional ability to predict health related quality of life (HRQoL) was found in all age groups. The patients in all age groups perceived negative impact of the disease on their health related quality of life. However, elderly patients reported that their health related quality of life exceeded their expectations for their age. Younger patients complained about the loss of activities and roles, and consider their health related quality of life to be quite bad.

In the study of the authors Dunderdale, K., et al. [3] conducted in England by using interviews with 10 patients aged from 57 to 72 years, there were identified seven areas related to HRQoL of patients with chronic heart failure. All the respondents perceived negative impact of the disease on their quality of life. As the most important aspect that had impact on HRQoL there was proven the ability to perform tasks and physical activity. There was proven high incidence of anxiety and depression. The respondents very often respondents complained of sleep disorder.

In the research study of the authors Ågren S, et al. [1], conducted in Sweden, there was examined the efficiency of education in 155 patients and their partners. The first group ( $n = 71$ ) – usual (habitual) care, the second group ( $n = 84$ ) + usual care psychoeducational intervention in 3 modules: face-to-face counseling, basic education through a PC, printed educational material. Integrated care that was focused on the development of skills, problem solving and social support, was effective. It was proven that more frequent contact and professional training of skills had greater impact on quality of life, self-control and self-care in patients with chronic heart failure.

In the cross-sectional study by Chung M. L. in [6], conducted in the U.S.A. there were monitored 58 couple (patients and their caregiver partners). The sample consisted of 74 % male patients with NYHA classification III to IV treated for chronic heart failure for at least 1 month. It was proven that 56.9 % patients and 56.9 % their caregiver partners suffered from depression symptoms, which exceeded their incidence in healthy population. There were no differences between the sexes. The incidence of depression symptoms in caregiver partners had a negative impact on patients' HRQoL. The results of this study show the considerable impact of caregiver partners and they indicate that patients with chronic heart failure are particularly sensitive to the emotional distress of their caregiver partners.

## Conclusion

The results that monitored subjective assessment of quality of life in our respondents indicated that chronic heart failure affected the quality of their lives in a negative way. The focus should be devoted to the specialised multidisciplinary healthcare programmes, including the education of these patients and their caregivers. We can conclude that healthcare has significant impact on patients' adherence to treatment and helps improve their quality of life.

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