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IS QUALITY OF LIFE RELATED TO ILLNESS AND ACCEPTANCE OF ILLNESS?

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SUMMARY

Introduction: Although, that the general well-being is extensively studied in wide range of contexts, still little place is devoting to relationship between acceptance of illness (AIS) and quality of life (QoL), especially among cardiac patients.

Aim: The aim of this study was to: (1) determine an association between these two variables; (2) examine relationship between selected variables (age, sex, education level, NYHA class, time since CVDs diagnosis, cardiosurgery intervention and presence of comorbid diseases) and quality of life.

Material and methods: The study included 172 patients with diagnose cardiac disease. All participants were examined used standardized questionnaires: Short Form of health survey (SF-36 questionnaire) and Acceptance of Illness Scale (AIS).

Results: The patients presented moderate level of illness acceptance and quality of life level. Over than half of participants did not accept their illness. Significant, positive relationship between AIS and QoL were noted. NYHA class, number of cardiac hospitalization and time since cardiovascular disease diagnosis was negatively correlated with QoL.

Conclusions: Findings presented in this study demonstrated, that AIS is strongly related with QoL.

Key words: illness acceptance, quality of life, AIS, QoL, cardiac diseases.

INTRODUCTION

Cardiac disease, like any other chronic disease, affects not only the physical performance, but also the psychological and social behavior of these patients. From all these parameters, quality of life (QoL) seems to be the most important and has to be considered in treating these patients.

Acceptance of illness refers to the ability of patients to adapt to life with a disease. This is a complex process modulated by a number of factors, such as manifestation of a disease, availability and quality of its treatment, individual predispositions (e.g. temperament, emotions, stress, coping strategies, etc.), support from family members and other close relatives and socioeconomic status [1]. The aforementioned determinants may affect the subjective perception of quality of life (QoL) and determine the level of the patient's own activity. According to the literature, people who accept their illness understand the disease and are conscious of its course, as well as demonstrate an optimistic and hopeful attitude to life, trust physicians, trust therapeutic methods and actively participate in therapy [2]. The high illness acceptance gave the patients a feeling of greater self-reliance and better ability to deal with problems resulting from chronic disease, and its treatment [3]. Perhaps, patients with higher the level of illness acceptance, better adapt and feel less intensive emotions, what may affect their evaluation of the quality of life.

The aim of the present study was: (i) to add new knowledge about quality of life; (ii) to assess a quality of life and the degree of illness acceptance in cardiac patients; (iii) to determine the relationship between quality of life and acceptance of illness; (iv) to examine relationship between selected variables (age, sex, education level, NYHA class, time since CVDs diagnosis, cardiosurgery intervention and presence of comorbid diseases) and quality of life.

MATERIAL AND METHODS

The study was carried out between 1 december 2014 and 30 april 2015 among patients with confirmed cardiac disease, diagnosed at the Upper-Silesian Medical Center in Katowice. Finally, the analysis included 172 patients, 80 women (mean age: $59,87 \pm 12,87$ years; mean time since CVDs diagnosis: $9,07 \pm 5,24$) and 92 men (mean age: $55,05 \pm 11,79$ years; mean time since CVDs diagnosis: $8,67 \pm 6,12$), aged 31 to 80 years. The exclusions criteria included: persons not understanding the commands, illiterate persons, deaf persons and mentally ill persons.

For the realization of the study purposes, the following standardized scales were applied:

1) The short form (SF)-36 questionnaire is one of the most widely used generic instruments to assess quality of life and has been used extensively with cardiac patient populations. The SF-36 is composed of eight subscales that can be summarized in two aggregate scores: the physical component of health (PC), for physical functioning, role limitations due to physical health, bodily pain, and general health perception, and the mental component of health (MC), for emotional well-

being, vitality, role limitations due to emotional problems, and social functioning. Each of the eight domains of the SF-36, measures an aggregate percentage score. The percentage scores range from 0% (lowest or worst possible level of functioning) to 100% (highest or best possible level of functioning) [4-6].

2) The Acceptance of Illness Scale (AIS) consists of eight questions describing the consequences of poor health condition. The questions regard the limitations imposed by the illness, lack of independence, the feeling of being dependent of others, and reduced self-esteem. Each question had a 5-grade scale of answers, where: 1 – strongly agree, 5 – strongly disagree. A strong agreement means poor adaptation to the disease, and the lack of agreement – acceptance of the disease. The score for illness acceptance is a sum of all points and can range from 8 to 40. Low scores (0-29) indicate the lack of acceptance and adaptation to a disease, and the strong feeling of mental discomfort. High scores (30-40), prove the acceptance of illness, manifest as the lack of negative emotions associated with a disease. The scale can be used to assess the degree of acceptance of every disease [7-8].

The following demographic variables were collected by self-report survey at baseline and used in the present analyses as covariates: 1) age (in years); 2) sex; 3) education level; and 4) cardiac medical index (a checklist of cardiac variables that include NYHA class, time since CVDs diagnosis, cardiac surgery intervention and presence of other medical condition).

Data analysis involved use of STATISTICA StatSoft 10.0 software. Because a normal distribution could not be demonstrated (the Shapiro-Wilk test) for all parameters studied, the nonparametric Spearman rank coefficient (r) was used to assess the correlation between two quantitative variables. Comparison in group were made by means of Mann-Whitney U test and Kruskal-Wallis ANOVA. The level $p < 0,05$ was assumed as statistically significant.

The study described in the article has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki).

RESULTS

The acceptance of illness demonstrated by men was moderate - at a mean level of 23,0 points, with a standard deviation of 6,85, median was 20,5 and minimum = 11,0, maximum = 37,0. In case of women, results were as follows: $M=26,0$; $SD=6,61$; $Me=24,0$, $MIN=15,0$; $MAX=36,0$. There was no significant gender differences in mean values ($p=0,397$).

In next step, cardiac patients were divided into two groups due to the degree of illness acceptance (low or normal). Over than half of participants did not accept their illness. The graphic representation of AIS scores is seen in figure 1.

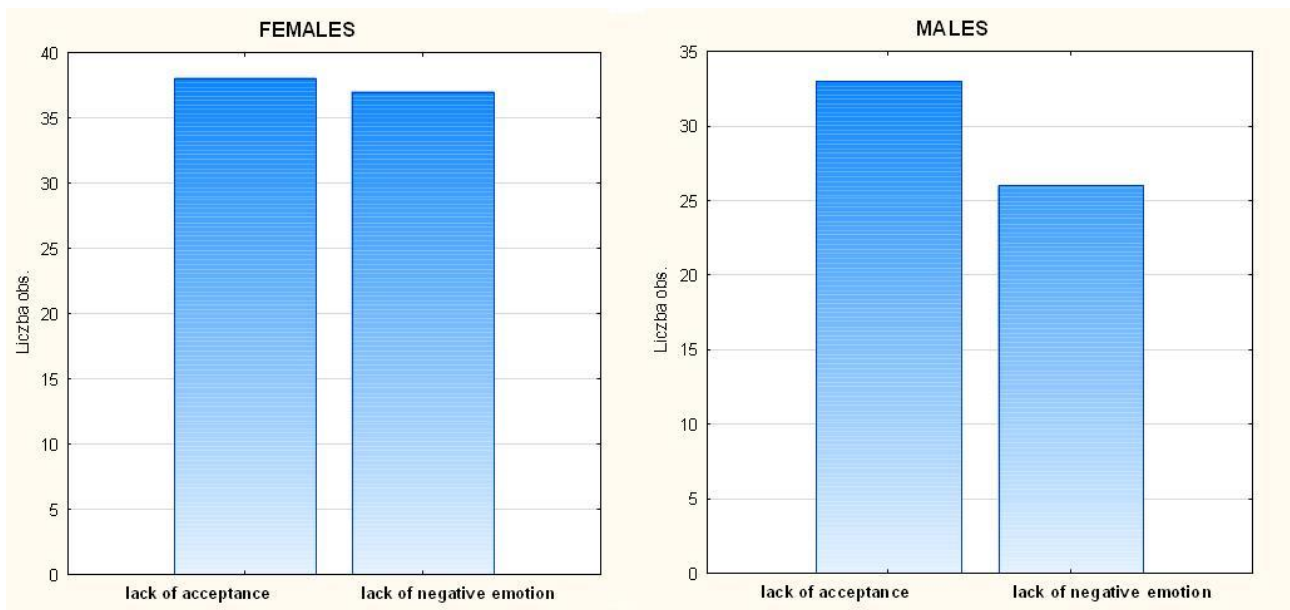


Figure 1. Level of illness acceptance in females and males

The overall results for the two components as well as eight domains of health of SF-36 are presented in the Table 1.

Table 1. SF-36: Health self-assessment - descriptive statistics and gender differences

Health components and factors	Mean ± SD		p
	females	males	
physical functioning	54,00 ± 25,78	62,53 ± 24,94	0,0197
role limitations due to physical health	28,75 ± 28,41	46,52 ± 18,47	0,0000
pain	48,00 ± 24,75	58,19 ± 25,82	0,0083
general health	29,16 ± 14,30	43,05 ± 15,93	0,0000
Physical Component of health [PH]	39,97 ± 17,34	52,60 ± 20,26	0,0000
emotional well-being	57,12 ± 22,59	57,22 ± 19,61	0,9898
energy / fatigue	60,00 ± 22,71	49,07 ± 16,52	0,0125
role limitations due to emotional problems	39,25 ± 18,65	52,22 ± 18,26	0,0000
social functioning	60,40 ± 14,44	63,00 ± 19,76	0,6722
Mental Component of health [MC]	54,19 ± 17,75	55,73 ± 19,26	0,9764

Patients with AIS in range of normal values demonstrated higher mean values in every factor and component of health than patients with low level of AIS. Detailed descriptive statistics for both groups and level of differences are shown in table 2.

Table 2. SF-36: Health self-assessment - descriptive statistics due to level of illness acceptance

Health components and factors	Mean ± SD		p
	Low acceptance	Normal acceptance	
physical functioning	57,83 ± 28,21	61,53 ± 20,14	0,4960
role limitations due to physical health	30,00 ± 15,64	51,92 ± 22,57	0,0000
pain	46,16 ± 16,91	54,25 ± 18,43	0,0367
general health	36,05 ± 19,62	42,91 ± 15,30	0,1024
Physical Component of health [PH]	44,13 ± 17,18	53,27 ± 20,08	0,0265
emotional well-being	49,25 ± 26,25	65,03 ± 22,38	0,0000
energy / fatigue	45,55 ± 14,18	63,53 ± 19,48	0,0000
role limitations due to emotional problems	44,65 ± 17,87	52,00 ± 17,38	0,0223
social functioning	55,53 ± 17,96	69,15 ± 21,22	0,0000
Mental Component of health[MC]	48,75 ± 17,65	62,43 ± 19,56	0,0007

Correlation between analysis variables and quality of life were presented in table 3.

Table 3. Correlations between selected variables and physical (PC) and mental (MC) component of health

VARIABLES	females		males	
	PC	MC	PC	MC
age	-0,18	0,15	-0,36*	-0,28*
Education level	0,33*	0,41	0,28*	0,23
BMI	-0,26	-0,42*	0,17	-0,09
NYHA	-0,57**	-0,38**	-0,51**	-0,43*
Number of hospitalisation	-0,26*	-0,21*	-0,27*	-0,06
Time since CVDs diagnosis	-0,16	-0,16*	0,05	-0,13*
Acceptance of illness	0,53**	0,61**	0,56**	0,64**

Note: correlation statistically significant at level: *p<0,05; **p<0,01

Statistically significant differences in components of health due to presence of previous cardiac surgery were presented in figures 2-3.

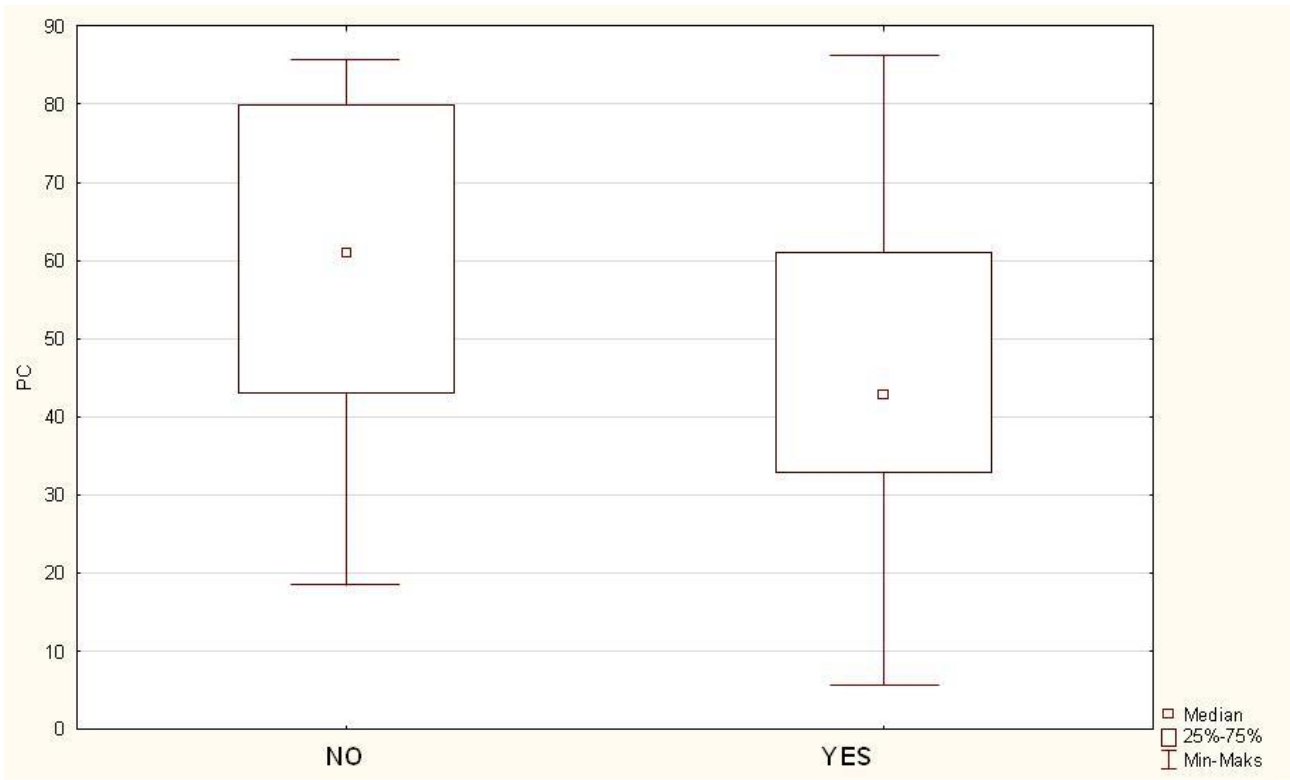


Figure 2. Differences in physical component (PC) of health due to presence/absence of cardiac surgery (p=0,0008)

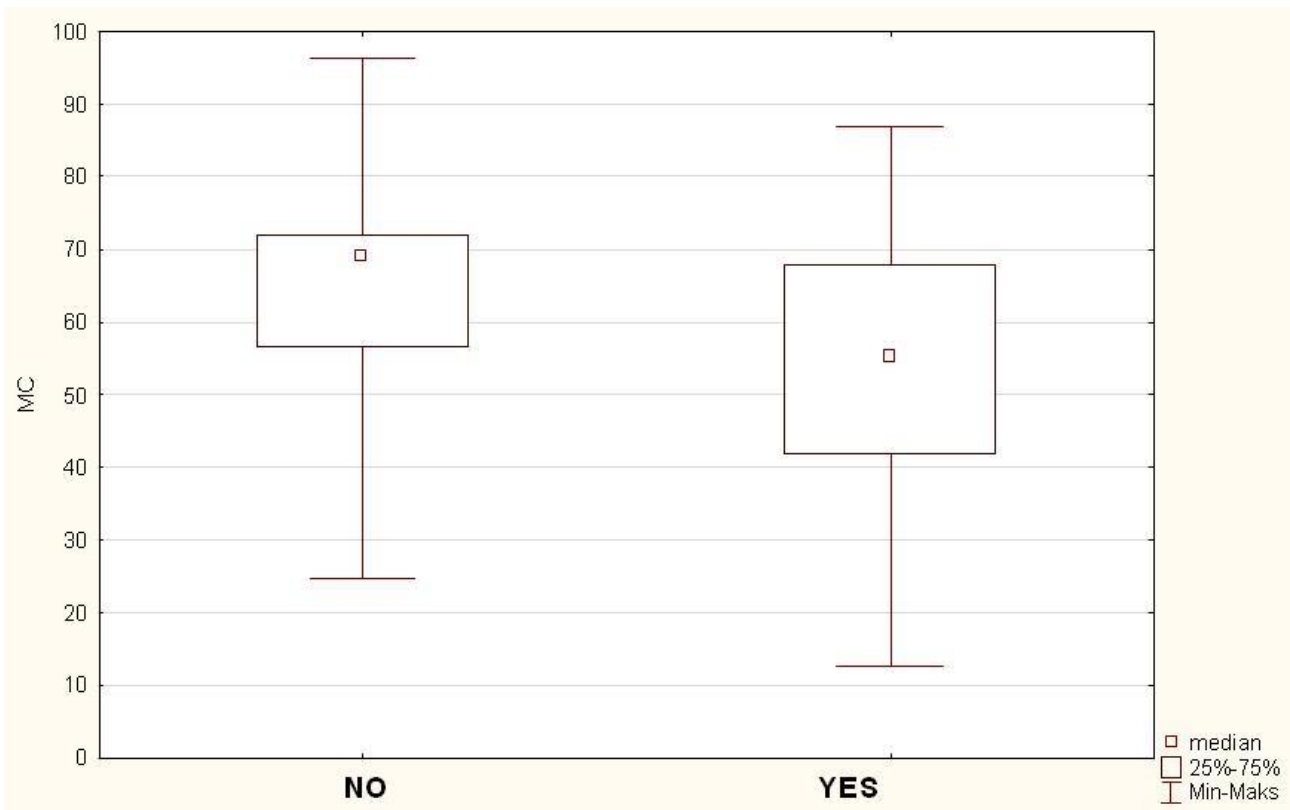


Figure 3. Differences in mental component (MC) of health due to presence/absence of cardiac surgery (p=0,0011)

DISCUSSION

The assessment of the level of illness acceptance in the issues related to the quality of life is more and more common in medical context. This is the result of current holistic ideology of medicine which upholds that all aspects of people's needs including psychological, physical and social should be taken into account and seen as a whole. According to the American Holistic Medical Association it is believed that the spiritual element should also be taken into account when assessing a person's overall well-being [9]. The biopsychosocial model of health embedded within the core programmatic elements of structured cardiac rehabilitation lends itself well to holistic care [10,11].

Finding presented in this study, performed among cardiac patients, showed that the patients acceptance of the illness was moderate. Women have lower AIS than men, but without significant differences ($p=0,397$). Similar results were observed among patients with chronic respiratory diseases [12]. However, these results were higher than results obtained by authors of the studies carried out among malaria patients [13,14]. Quality of life measured by SF-36 questionnaire received a results in range from low to moderate/slightly moderate. Attention is drawn to low values of the factors involved in the physical component of health in women (table 1).

Data presented in table 2 indicate that the higher the acceptance of the illness, the higher quality of life. Statistically significant, moderately powerful, correlation between the level of the acceptance of the illness and both components of health was also found. Previous studies did not assess impact of cardiac variables to quality of life level. Present study revealed negative relationship of quality of life with NYHA class (strong correlation with both components of health), number of cardiac hospitalization (weak to moderate correlation with both components in men and with physical component in women) and time since cardiovascular disease diagnosis (weak correlation only with mental component of health, both in men and women) {See table.3}.

Nowicki et al., report that the level of illness acceptance in itself correlates with lower education which influences the ability of patients to look for knowledge about chronic diseases. The process of education is one of the main factors leading to higher illness acceptance levels in patients [15]. In the present study, education level was also positively correlated with AIS degree. Positive relationships with NYHA class and number of hospitalization was also demonstrated.

CONCLUSIONS

The overall degree of illness acceptance and health-related quality of life was moderate. According to the results presented here illness acceptance and NYHA class were strongly correlated with quality of life level. The author concluded that evaluation of illness acceptance may be helpful to improve quality of life level and treatment process.

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