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ORIGINAL ARTICLE

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Attitude towards knowledge of the disease and psychological characteristics of patients with systolic heart failure

BACKGROUND
We aimed to investigate the relationships between selected psychological features of patients with chronic systolic heart failure (HF) and their attitude towards knowledge of the disease.

PARTICIPANTS AND PROCEDURE
This prospective study among 75 patients with stable systolic HF consisted of 2 parts: a quantitative approach, conducted during the hospitalization (based on 4 psychological questionnaires: the Multidimensional Health Locus of Control Scale; the Coping Inventory for Stressful Situations; the Acceptance of Illness Scale; and the Patient's Request Form) and a qualitative approach (phone interviews performed later).

RESULTS
Fifty-nine percent of patients declared the need for possessing knowledge about their disease. Psychological questionnaires did not allow us to characterize groups of patients with extremely different attitudes towards knowledge about the disease. Patients who did not want to look for any information, although they admitted that their knowledge was poor, were characterized by the conviction that nobody has an influence on their health status. Patients who were likely to read drug labels were characterized by the active style of coping.

CONCLUSIONS
The attitude towards knowledge about the disease is diverse among patients with systolic HF, and it is not easy to explain these differences using their psychological features assessed in the present study. Further studies focused on assessing the patient's willingness to acquire knowledge about HF, using more accurate measures, are needed, especially for healthcare professionals, who still look for an improvement in understanding the needs of their patients.

KEY WORDS
acceptance of illness; coping styles; chronic heart failure; knowledge about disease; health control

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BACKGROUND

Contemporarily, cardiovascular diseases (including heart failure – HF) are the leading causes of death all over the world. Heart failure is a final stage of many other illnesses (mostly cardiovascular, such as coronary heart disease or hypertension, but also non-cardiovascular causes, including infections and cancer). Currently, 15 million people in Europe suffer from HF (Dickstein et al., 2008), and it is known that 5-15% of patients hospitalized due to HF will die during their hospitalization. Another 10-15% will die within 6-12 months after discharge. Half of the survivors will be re-hospitalized in a short period of time after discharge. In general, about 60% of men with HF and 40% of women with HF will die within 5 years since the initial HF diagnosis (Szczeklik, 2011). Heart failure is a chronic, terminal disease, in which the abnormal function of the myocardium causes inappropriate delivery of the oxygen to all body organs (McMurray et al., 2012). As a result, the unpleasant symptoms of HF (e.g. breathlessness, ankle swelling, and fatigue) are often accompanied by equally burdening symptoms of HF co-morbidities (e.g. chronic kidney disease, anaemia) (Virani, Khosla, & Levin, 2008). Thus, HF patients experience numerous limitations in their daily activities, which is related to a significant reduction of their quality of life (Ramani, Uber, Pharm, & Mehra, 2010; Allen et al., 2011) or even to the development of depressive symptoms (Dunderdale, Thompson, Miles, Beer, & Furze, 2005).

Modern medicine offers a wide range of methods of efficient treatment of the symptoms of HF, which are able to prolong the patients' lives, relieve the HF symptoms and improve the patients' quality of life. Those treatment options include pharmacotherapy as well as non-pharmacological recommendations. However, in order to benefit from the novel medical solutions, patients have to use them, which requires their compliance with medical regimes. Surprisingly, the frequency of non-compliance is relatively high among patients with HF (van der Wal, Jaarsma, & van Veldhuisen, 2005; Monane, Bohn, Gurwitz, Glynn, & Avorn, 1994; Strömberg, 2006). This leads to a mismatch between the dynamic development of medicine and its results (in terms of both an improvement of HF survival and the patients' quality of life). There are suggestions that non-compliance is a simple consequence of the lack of knowledge and of an incorrect understanding of the disease, its pathophysiology, the role and the meaning of the treatment process and the effects of non-compliance (van der Wal et al., 2006). On the other hand, health psychology suggests that some patients may perceive their disease (all related knowledge and understanding regarding the consequences including the awareness of the nearness of death) as an additional source of burden and anxiety (Miller, 1995; Case, Andrews, Johnson, & Allard, 2005; Timmermans, van Zuuren, van der Maazen, Leer, & Kraaimaat, 2007). As HF is a terminal disease, a patient with HF may also experience such emotions (Opasich et al., 2008). As a result some patients may purposely avoid any knowledge and understanding of their disease.

Available literature suggests that particular psychological features may affect an individual attitude towards knowledge of the disease (Basińska & Andruszkiewicz, 2016). For instance, it is known that localisation of health control is a crucial feature determining attitude towards therapeutic education (Basińska & Andruszkiewicz, 2016) as well as health-related behaviours (Helmer, Krämer, & Mikolajczyk, 2012). In particular, it has been shown that people with an internal health locus of control have more pronounced expectations regarding knowledge about the relation between their disease and various aspects of their everyday functioning (Basińska & Andruszkiewicz, 2016).

Moreover, strategies of coping with stressful situations (such as chronic diseases) might determine the patients' behaviour (Kalichman et al., 2005).

Importantly, apart from both above-mentioned features (which may be measured in healthy people as well as in patients) there are psychological phenomena related directly to experiencing the illness, which were shown to affect the attitude towards knowledge related to the disease. For instance, the level of illness acceptance was shown to be related to therapeutic knowledge (Zdanowska et al., 2010) and affect health related behaviour (Jankowska-Polańska, Blicharska, Uchmanowicz, & Morisky, 2016). Furthermore, there is a scale called the Patient's Request Form (PRF), which refers directly to requests related to information about the disease as well as explaining the disease (Juczyński, 2001).

In the present study we did not want to assess the level of knowledge regarding HF among patients. We aimed to investigate the relationships between selected psychological features (assessed using a quantitative approach, based on validated psychological scales) of patients with chronic systolic heart failure and their attitude towards knowledge of the disease, explored using a qualitative approach. These phenomena have not been comprehensively studied in the field of HF. We believe that attitude towards knowledge related to HF should be comprehensively studied, due to particular importance of compliance with medical regimes in this condition (van der Wal et al., 2006).

PARTICIPANTS AND PROCEDURE

STUDY GROUP

The participation in the current study was offered to patients with stable systolic HF admitted for planned hospitalizations in the Centre for Heart Diseases at the Military Hospital in Wroclaw, Poland between October 2010 and July 2012. We would like to underline that despite the fact that our study was conducted in a military hospital, the patients were not soldiers, and therefore constituted a representative sample of patients with HF, selected according to the criteria given below.

Inclusion criteria were as follows: a) age ≥ 18 years; b) a > 6-month documented history of heart failure (New York Heart Association [NYHA] I-III classes); c) clinical stability and unchanged medications for ≥ 1 month preceding the study; d) left ventricular ejection fraction (LVEF) < 45% assessed by echocardiography. Exclusion criteria comprised: a) revascularization and/or acute coronary syndrome within 3 months preceding the study; b) heart failure decompensation within 1 month preceding the study; c) the diagnosis of a psychiatric disorder at any time; d) being a medical doctor; e) inability to fill in the questionnaires; f) a lack of informed written consent.

Regarding criterion (d), we decided to exclude medical doctors from the current study due to the fact that having professional knowledge about diseases (including heart failure) can influence the attitude towards gaining knowledge, independently of individual psychological characteristics.

STUDY PROTOCOL

The study consisted of two parts. The first part of the study (i.e. the quantitative approach) was performed during the initial hospitalization. Each patient underwent a physical examination with routine laboratory tests and standard transthoracic echocardiography. Afterwards, each patient completed 4 psychological questionnaires:

- The Multidimensional Health Locus of Control Scale (MHLC),
- The Coping Inventory for Stressful Situations (CISS),
- The Acceptance of Illness Scale (AIS),
- The Patient's Request Form (PRF).

The second part (i.e. qualitative approach), based on a structured phone interviews with the patients who took part in part 1, was conducted after ≥ 6 months.

METHODS

A detailed description of the psychological questionnaires used in the first part of the study is presented in Table 1. Phone interviews performed in the second part were based on 5 questions assessing patients' general attitude towards knowledge of his/her disease (originally asked using the Polish language):

1. Do you feel that you are missing information about your disease?
2. Are you looking for information about your disease? (if yes, where and how?)
3. Do you read drug labels?
4. Would you like to participate in educational lectures concerning HF?
5. Would you like to receive educational leaflets about heart failure?

Patients were asked to answer 'yes' or 'no'; however, during the whole conversation there was an opportunity to freely discuss each question. All answers as well as additional comments were written down word by word. All interviews were performed by the same investigator.

In order to find relations between psychological features assessed using questionnaires in the quantitative part and the declarations made during interviews carried out in the qualitative part, we compared the psychological characteristics obtained during the quantitative part between patients answering 'yes' or 'no' to the particular questions from the qualitative part.

STATISTICAL ANALYSES

Normality was tested using the Kolmogorov-Smirnov test. Continuous variables with a normal distribution were presented as a means ± standard deviations of the mean. Variables with a skewed distribution were expressed as medians with lower and upper quartiles, and were log transformed in order to normalize their distribution. The categorical variables were expressed as numbers with percentages. The inter-group differences were tested using Student's *t*-test for unpaired samples, ANOVA or the Mann Whitney *U*-test or the χ^2 test, where appropriate. Relationships between analyzed variables were assessed using Pearson's or Spearman's correlation coefficients, where appropriate. A value of $p < .05$ was considered statistically significant. Statistical analyses were performed using the STATISTICA 10 data analysis software system (StatSoft, Inc).

RESULTS

In the first part of the study we examined 75 patients with stable systolic heart failure. Mean age of patients was 60 ±11 years old. The majority of them were men (89%). The most common cause of HF was ischaemic heart disease (present in 72% of patients). Sixty-one percent of patients suffered from HF symptoms classified according to the New York Heart Association as class II (slight limitation of daily physical activity; comfortable at rest; ordinary physical activity results in fatigue, palpitation or dyspnoea). Studied patients have also many other co-morbidities (mean: 5 ±3), the most common being hypertension (52%) and diabetes mellitus (33%).

Table 1

Detailed description of the psychological questionnaires used in the quantitative part of the study

Questionnaire	Subscales	Definition	Analysis
MHLC Multidimensional Health Locus of Control Scale Measuring personal beliefs regarding the control of individual health status, measures 3 possible localizations of health control (subscales).	IHLC Internality	Internal locus of control; patients with a high score in this subscale believe that their health status depends only on their own behaviours.	Each subscale is composed of 6 items. The answers for each item are expressed using a 6-point Likert scale, where the lowest score (1 point) means *strongly disagree*, and the highest score (6 points) means *strongly agree*; thus it is possible to obtain from 6 to 36 points in each subscale.
	PHLC Powerful Others Externality	External localization; patients with a high score in this subscale are convinced that their individual health status is the consequence of the actions performed by "powerful people", e.g.: doctors, family members, friends.	
	CHLC Chance Externality	External localization; patients with high score in this subscale believe that mainly chance, fate or luck determines their health status.	
CISS Coping Inventory for Stressful Situations Evaluates strategies of dealing with difficult situations. It consists of 48 statements about different behaviours typical for people in distress.	SSZ Task-oriented style	People who obtain high results in this scale, in difficult situations take action to solve the problem, endeavour to change the situation, and tend to interpret the situation as a task and/or a challenge.	Subjects have to determine on a five-point scale (1 = *never* and 5 = *always*) the frequency of a given behaviour in stressful situations. Subscales for styles include 16 statements allowing one to gain from 16 to 80 points. Raw scores are converted to stens (1-10) by taking into account the gender and the age of the subjects. Result classified in stens 1-3 are interpreted as LOW; analogously those classified in stens 7-10 are interpreted as HIGH.
	SSE Emotion-oriented style	A high score means a tendency to focus on emotional experiences (anger, guilt, tension), which is associated with a lack of realism and proneness to "wishful thinking".	
	SSU Avoidant style	A high score on the scale SSU is associated with avoidance of thinking about the difficult situation and with a tendency to behave as if nothing serious happened.	

(Table 1 continues)

Table 1
(Table 1 continued)

AIS Acceptance of Illness Scale Measures the level of illness acceptance in the context of negative consequences of the illness (recognition of limitations, lack of self-sufficiency, dependence on other people and low self-esteem).	–	A low score demonstrates a lack of acceptance and adaptation to the disease, and strong psychological discomfort. A high score indicates acceptance of the illness condition, which demonstrates the absence of negative emotions associated with the disease.	The scale consists of 8 statements. Participant express (using the scale 1 (*definitely agree*) to 5 (*strongly disagree*)) his/her attitude towards his/her current state. The minimum score is 5, and the maximum is 40 points. The levels of illness acceptance (lack, intermediate, high) are estimated according to the mean score for the examined group.
PRF Patient Request Form Evaluates forms of support expected by patients from physicians. It assesses 3 possible types of patients' requests.	Explanation	An expectation of explanation of the disease.	PRF consists of 18 items, defining "reasons for my contact with the doctor" – a participant answers how he/she agrees with the specific reason given in the survey by marking one of 3 possible options: yes / not sure / no (6 items for each type of request; 0-12 points to gain in each type of request).
	Emotional Support	Seeking emotional support.	
	Information	A request for information about diagnostic process and treatment.	

Regarding the results obtained from the MHLC, examined patients obtained 27 ±5 points in the subscale assessing the internal locus of control, whereas in the subscale measuring the external localization focused on the role of other people it was 29 ±5. In the subscale assessing external location of health control focused on the role of chance or luck in the studied group the mean value was 22 ±6 points. It suggests that studied patients were convinced about the influence of themselves as well as other people on their health status, as no one presented a low IHLC score. The studied group obtained a mean result of 56 ±10 points for task-oriented coping style, 42 ±11 for coping style based on emotions and 44 ±8 points for coping style based on avoidance. Studied patients with HF obtained an average of 26 ±8 points in the Acceptance of Illness Scale. In the Patient Request Form evaluating forms of support expected by patients from physicians, the studied population obtained on average 11 ±2 points for explanation, 7 ±4 for emotional support and 11 ±3 points for information (Table 2).

Phone interviews were performed during 4 weeks, and were started 6 months after the discharge of the last patient enrolled in the first part. The median length of the period between the first and the second part (in patients who took part in both parts) was 11 months. Sixty-one patients were interviewed (6 patients died, 1 had a stroke, 7 patients refused to take part in the second part). There were no differences in clinical parameters between patients included in the first part of the study and those who took part in the phone interviews. The distribution of answers to the particular questions is shown in Figures 1 and 2. Here we present selected sentences recorded during the interviews: 'To know you have to pay, you must go privately and then keep asking your doctor about everything you need to know' (interviewee 69 years old, male), 'If you want to know you have to ask, otherwise doctors do not tell you. I can find out more on my own, when I need. Doctors do not have time for explaining' (interviewee 62 years old, male), 'Our health system is quite mysterious' (interviewee 59 years old, male) and 'Doctors say very little. They tend to keep secrets' (interviewee 60 years old, male).

Seventy-five percent of patients were satisfied with their level of knowledge of their disease (among them only 46% look for additional information) and only 25% feels that their knowledge is not complete (thus 67% look for additional information). Almost 50% of patients admitted that their knowledge was based only on the information provided by health professionals, and half of the studied group looked for additional sources of information (Figure 1). The most popular sources of additional information were: Internet (68%), printed materials (45%) and conversations with other patients as exchanging experiences (13%; Figure 1). Patients with systolic

HF would prefer to receive leaflets about their disease than go for a lecture (Figure 1). Some patients respond very enthusiastically to the suggested potential new sources of knowledge (lectures, leaflets): 'Knowledge is very helpful in engaging in the treatment of the disease. Knowledge can only help, never hurt' (interviewee 42 years old, male), 'there can never be too much knowledge' (interviewees: 56-year-old man and 75-year-old woman), 'the more you know, the better' (interviewee 67 years old, male). But some patients provided opposite answers, e.g. 'the less you know, the longer you live!' (interviewee 56-year-old man).

ANALYSIS OF COMBINED DATA FROM BOTH APPROACHES

We performed separate comparisons for questions 1 and 2 (which enable us to divide patients into 4 groups, Table 3) and for questions 3-5 (where we were testing differences in psychological features of patients answering 'yes' vs. those who answered 'no', Table 4).

The first comparison showed that patients who felt that their knowledge is poor and did not want to look for any information were those who did not believe in the influence of other people on their health status (i.e. they had the lowest scores in the PHLC subscale). Further comparisons suggested that patients who read drug labels were characterized by the active style of coping. Interestingly, patients who declared likeliness to attend lectures about HF were those who declared less pronounced requests for the information about the disease, whereas those declaring likeliness to read leaflets declared requests for emotional support (Tables 3 and 4). We did not find any other differences in psychological characteristics assessed using questionnaires between patients divided according to their answers obtained during the telephone conversations.

Table 2

Baseline clinical characteristics of whole studied group and results obtained in psychological questionnaires by all examined patients with systolic heart failure

Variables	All studied patients with systolic HF (*n* = 75)
Clinical characteristics	
Age [years]	60 ±11
Men [*n*, %]	67 (89%)
BMI [kg/m^2]	26.80 ±4.30
Ischaemic HF aetiology [*n*, %]	54 (72%)
NYHA classes I/II/III [*n*, %]	10 (13%)/46 (61%)/ 19 (25%)
Hypertension [*n*, %]	39 (52%)
DM [*n*, %]	25 (33%)
Number of comorbidities	5 ±3
Psychological questionnaires	
MHLC	
IHLC	27 ±5
PHLC	29 ±5
CHLC	22 ±6
CISS	
SSZ	56 ±10
SSE	42 ±11
SSU	44 ±8
AIS	26 ±8
PRF	
Explanation	11 ±2
Emotional Support	7 ±4
Information	11 ±3

DISCUSSION

The most important message from the present study is that patients with systolic HF have very varied attitudes towards knowledge about their disease, and not all of them want to know more about HF. Such a conclusion could be drawn from either their psychological characteristics based on psychological questionnaires or their answers during the phone interview. That is very important information for healthcare professionals, who have to inform patients about their health status. Some patients can feel emotionally overloaded by too much details related, for instance, to possible complications (Zettler, Duran, Waadt, Herschbach, & Strian, 1995), while some may tend to blame themselves for having the disease (Plaufcan, Wamboldt, & Holm, 2012). That is why the very first step in educating patients should concern checking their attitude towards knowledge about their disease. In the current study, all patients were likely to discuss this issue during the phone interview. Importantly, some patients associated the insufficient information received from their doctors with poor organization of the healthcare system.

We found that some psychological features, which can be obtained using the existing, validated tools, were characteristic for patients with a positive attitude towards knowledge of the disease, for instance the external localization of health control referring to the importance of other people. In particular, we

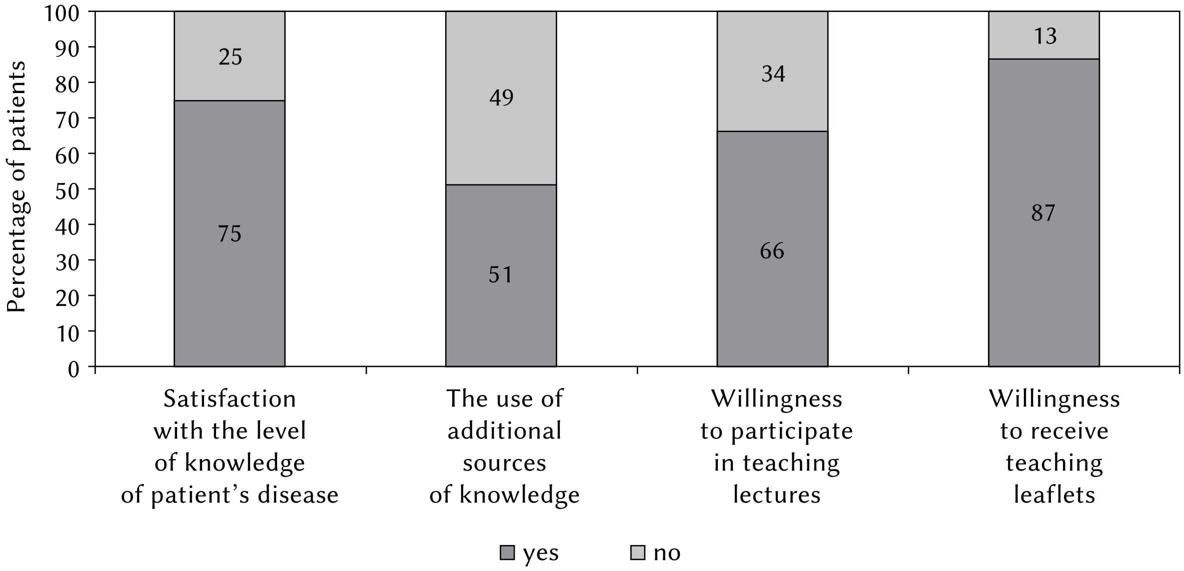

Figure 1. Distribution of patients' answers for the questions regarding patients' general attitude towards knowledge of his/her disease assessed during phone interviews performed among 61 patients with heart failure.

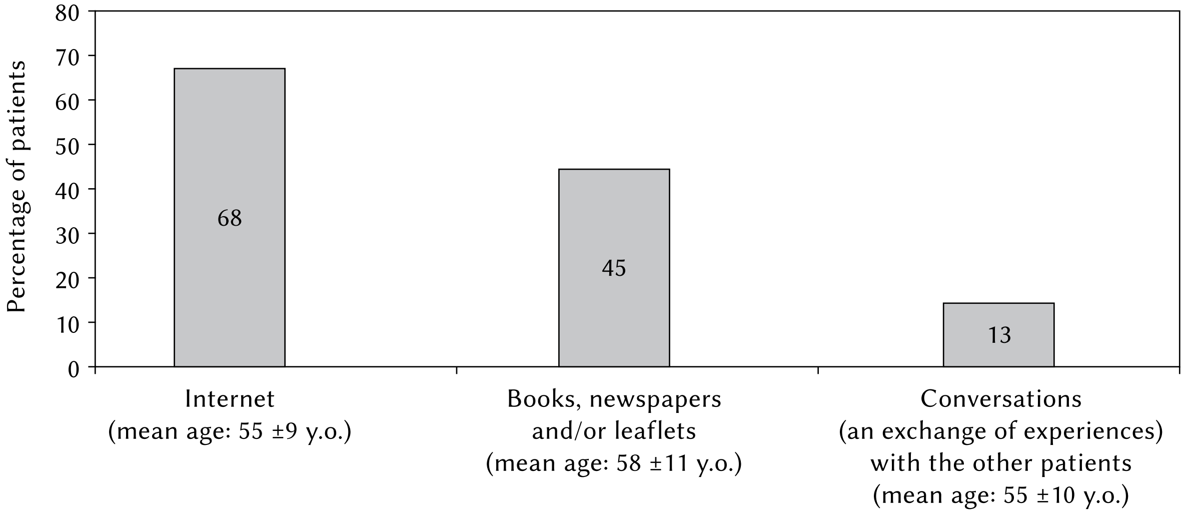

Figure 2. The most popular additional sources of information used by patients who have broaden their knowledge of the disease on their own (n = 31).

found that patients who refused to look for any information (despite rating their knowledge as poor) obtained the lowest scores in the PHLC subscale. This result confirms that localisation of health control has an influence on the attitude towards knowledge about health status and is partially consistent with the results of Basińska and Andruszkiewicz (2016) – where internal, not external health locus of control was related to expectations regarding therapeutic knowledge. We also confirmed that strategies of coping with stress determine the patients' health-related behaviour (Kalichman et al., 2005), as we found a positive relation between reading drug labels and active coping. Surprisingly, we did not find any associations between the attitude towards information about the disease and the general level of illness acceptance. As available literature underlines the meaning of illness acceptance in the attitude towards the disease (Zdanowska et al., 2010) also among patients with cardiovascular diseases (Jankowska-Polańska et al., 2016), it requires further studies. Results obtained using PRF are the most controversial: likeliness to attend lectures was inversely related to requests for information about the disease; moreover, likeliness to read leaflets was related to requests for emotional support. However, there are not many studies on the expectations of patients with cardiovascular diseases assessed using the PRF, and therefore it is difficult to understand how this result confirms previous findings.

Table 3

Combination of answers during phone interview with results obtained from psychological questionnaires (part 1)

	Patients with heart failure who...				p
	...feel the absence of information and look for the information (n = 10, 16%)	...feel the absence of information but do not look for the information (n = 5, 8%)	...do not feel the absence of information but look for the information (n = 21, 34%)	...do not feel the absence of information and do not look for the information (n = 25, 41%)	
MHLC					
IHLC	25 ±5	30 ±3	27 ±4	27 ±5	.423
PHLC	31 ±4	26 ±4	28 ±6	31 ±4	.040*
CHLC	25 ±5	23 ±3	21 ±7	22 ±5	.332
CISS					
SSZ	57 ±11	55 ±4	59 ±10	55 ±10	.373
SSE	44 ±12	46 ±8	40 ±10	43 ±9	.361
SSU	45 ±6	46 ±11	44 ±7	48 ±8	.273
AIS	24 ±10	21 ±10	26 ±8	28 ±6	.132
PRF					
Explanation	12 ±1	11 ±1	10 ±2	11 ±2	.234
Emotional Support	7 ±4	9 ±3	6 ±4	8 ±4	.334
Information	12 ±1	12 ±0	11 ±3	11 ±2	.411

Note. Results are presented as mean ± standard deviation; MHLC – Multidimensional Health Locus of Control Scale: IHLC – subscale measuring internal location of health control; PHLC – subscale measuring external location of health control focused on the role of other, powerful people; CHLC – subscale measuring external location of health control focused on the role of luck; CISS – Coping Inventory for Stressful Situations; SSZ – task-oriented coping style; SSE – coping style based on emotions; SSU – coping style based on avoidance; CISS – Coping Inventory for Stressful Situations: SSZ – task-oriented coping style; SSE – coping style based on emotions; SSU – coping style based on avoidance; AIS – Acceptance of Illness Scale; PRF – Patient Request Form. *$p < .05$

In sum, we did not find other relationships between the psychological characteristics of patients (obtained using professional psychological questionnaires) and their attitude towards knowledge about the disease (reflected by their answers to our questions).

Although there are psychological tools assessing features which seem to be related to the attitude towards the disease, we still need to develop a measure which will directly address this particular question. Perhaps some questionnaires developed for other diseases might be helpful (Mezo, McCabe, Antony, & Burns, 2005). Recently a very promising scale was proposed by Basinska and co-authors, called EO-15 Therapeutic Education Expectations Scale (Basińska & Andruszkiewicz, 2016). This measure, which was applied to a wide group of patients with various diseases as well as healthy controls, confirmed that health locus of control plays an important role in shaping the attitude towards therapeutic education. The authors also suggested that health status determined general education expectations of the studied subjects (Basińska & Andruszkiewicz, 2016). We believe that EO-15 should definitely be implemented and tested among patients with HF, as the management of this particular condition requires precise knowledge regarding pharmacotherapy as well as changes within the patients' lifestyle.

LIMITATIONS OF THE STUDY

There are a few limitations of our study, which we would like to acknowledge. Firstly, the present results may be affected by selection bias, which cannot be excluded in studies involving psychological questionnaires. It is widely known that there are some differences in psychological features between people who agree and those who refuse to participate in the study. An important limitation which must be mentioned is that all applied questionnaires are typical self-reported measures, and therefore are potentially related to a risk of misstatement.

Secondly, it is important to stress that in the first part of our study we investigated hospitalized pa-

Table 4

Distribution of answers during phone interview with results obtained from psychological questionnaires

Questions during phone interview:	3. Do you read drug labels?		4. Would you like to participate in educational lectures concerning HF?		5. Would you like to receive educational leaflets about heart failure?	
Answers:	Yes (*n* = 42, 69%)	No	Yes (*n* = 10, 16%)	No	Yes (*n* = 48, 79%)	No
MHLC						
IHLC	27 ±5	28 ±3	28 ±4	27 ±5	27 ±5	28 ±4
PHLC	30 ±5	29 ±4	31 ±3	30 ±6	30 ±5	27 ±6
CHLC	22 ±6	24 ±4	23 ±5	23 ±6	23 ±6	20 ±6
CISS						
SSZ	58 ±9	52 ±12*	55 ±9	59 ±10	57 ±10	57 ±12
SSE	43 ±10	39 ±10	38 ±9	44 ±12	43 ±10	37 ±6
SSU	46 ±8	43 ±8	46 ±8	47 ±9	46 ±8	40 ±6
AIS	25 ±8	28 ±7	27 ±7	25 ±9	26 ±8	21 ±6
PRF						
Explanation	11 ±2	10 ±3	10 ±3	11 ±1	11 ±2	10 ±2
Emotional Support	7 ±4	6 ±4	6 ±5	9 ±3	7 ±4	3 ±5*
Information	11 ±2	11 ±3	10 ±3	12 ±1*	11 ±2	10 ±4

Note. Results are presented as a mean ± standard deviation; MHLC – Multidimensional Health Locus of Control Scale: IHLC– subscale measuring an internal location of health control; PHLC – subscale measuring external location of health control focused on the role of other, powerful people; CHLC – subscale measuring external location of health control focused on the role of luck; CISS – Coping Inventory for Stressful Situations; SSZ – task-oriented coping style; SSE – coping style based on emotions; SSU – coping style based on avoidance; CISS – Coping Inventory for Stressful Situations: SSZ – task-oriented coping style; SSE – coping style based on emotions; SSU – coping style based on avoidance; AIS – Acceptance of Illness Scale; PRF – Patient Request Form. **p* < .05

tients. Therefore, there might be some differences between hospitalised patients compared to outpatients with HF. For this reason, our findings should not be generalized to the whole population of HF patients. In our study 7 patients refused to take part in the phone interviews (another 6 patients died and 1 had a stroke); however, it was a low percentage of all studied patients, and we managed to interview 81% of all patients enrolled in the study.

Further studies are needed to better understand the psychological background of knowledge of the disease. As mentioned above, the EO-15 Therapeutic Education Expectations Scale – a new instrument used to research expectations of education-related activities (provided by Basińska & Andruszkiewicz) – should be used in this group, and perhaps the new results could be compared with the current findings.

CONCLUSIONS AND PRACTICAL IMPLICATIONS

The attitude towards knowledge about the disease is diverse among patients with systolic HF. It would be useful to implement a measure assessing the attitude or expectations related to knowledge about the disease to be used by healthcare professionals who often have to inform patients about their health status, in order to avoid an additional burden for patients who prefer not to know.

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