

# Existentially Oriented Group Intervention for Patients With Heart Failure: Intervention Development and Preliminary Assessment

Noa Vilchinsky, PhD; Yaffit Horowitz, MA; Eran Bar-Kalifa, PhD; Ilanit Hasson-Ohayon, PhD; Tatiana Berlin, MD; Morris Mosseri, MD

**Background:** Patients with heart failure (HF) cope with a chronic, life-threatening, particularly disabling medical condition. Their well-being is considered to be at a greater risk than that of patients with any other cardiovascular disease, and their psychological distress is associated with a worse prognosis. These patients are often preoccupied with existential concerns such as fear of death, loneliness, and a loss of sense of meaning. However, there is a dearth of literature regarding psychological interventions that address these issues among this population. **Aims:** We, the authors of the current pilot study, present the development and initial implementation of a novel protocol: “existentially oriented group intervention for patients with heart failure.” Our aims were to test the intervention’s feasibility, as well as to explore patients’ subjective experience of it. **Methods:** The intervention (consisting of seven 1-hour weekly sessions) was applied to 2 consecutive groups. Twelve patients coping with HF levels III and IV—according to the New York Heart Association classification—from a hospital-based HF clinic participated. The Narrative Evaluation of Intervention Interview was applied. **Results:** Although high dropout levels were detected, the patients who fully participated in the program reported on satisfaction and progress in the following 4 domains: personal growth, social support, self-worth, and mastery. **Conclusions:** On the basis of our preliminary findings, the “existentially oriented group intervention for patients with heart failure” is recommended to be further tested among patients coping with HF.

**KEY WORDS:** chronic illnesses, existentialism, group intervention, heart failure, NEII, patient-provider communication, well-being

## Noa Vilchinsky, PhD

Senior Lecturer, Department of Psychology, Bar-Ilan University, Ramat Gan, Israel.

## Yaffit Horowitz, MA

MA Student, Department of Psychology, Bar-Ilan University, Ramat Gan, Israel.

## Ilanit Hasson-Ohayon, PhD

Associate Professor, Department of Psychology, Bar-Ilan University, Ramat Gan, Israel.

## Eran Bar-Kalifa, PhD

Senior Lecturer, Psychology Department, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

## Tatiana Berlin, MD

Director of the HF clinic, The HF Clinic, Department of Cardiology, Meir Medical Center, Kefar Saba; and Sourasky School of Medicine, Tel-Aviv University, Ramat-Aviv, Israel.

## Morris Mosseri, MD

Head of the Cardiology Department, The HF Clinic, Department of Cardiology, Meir Medical Center, Kefar Saba; and Sourasky School of Medicine, Tel-Aviv University, Ramat-Aviv, Israel.

This work was supported by the Schnitzer Foundation for research on the Israeli economy and society and the Israel Heart Fund.

The authors have no conflicts of interest to disclose.

## Correspondence

Noa Vilchinsky, PhD, Department of Psychology, Bar-Ilan University, Ramat-Gan 52900, Israel (noa.vilchinsky@biu.ac.il).

DOI: 10.1097/JCN.0000000000000540

Heart failure (HF) is a chronic, progressive, incurable syndrome, which constitutes the final stage of heart disease.<sup>1,2</sup> The existing literature describes a wide spectrum of negative emotions that are common among these patients, including depression, anxiety, despair, and helplessness.<sup>3–8</sup> The documented interventions that were specifically designed to relieve the emotional distress endured by patients who cope with HF have been primarily behavioral, including cognitive-behavioral interventions,<sup>9</sup> relaxation and biofeedback techniques,<sup>10</sup> and, more recently, mindfulness-based training<sup>11</sup> and telemonitoring-based interventions.<sup>12</sup>

Perhaps, the most challenging aspect of HF, however—and one that has never been targeted in behavioral-oriented interventions—is patients’ intense preoccupation with existential issues arising from such life-threatening and disabling conditions as HF.<sup>13</sup> Patients experience extreme fear of death, contemplation of a foreshortened future, a loss of a sense of meaning in their lives, and deteriorating relationships. Unfortunately, many nurses as well as other health professionals are under the impression that talking about existential concerns will only

evoke more distress among their patients.<sup>14</sup> They are therefore reluctant to listen to their patients' worries, and patients are left to cope with their most disturbing fears alone.<sup>15</sup>

Moreover, as there is a great deal of literature regarding the association between social isolation and negative prognosis and even mortality among patients with HF,<sup>16,17</sup> it seems that an existentially oriented intervention delivered via group therapy as opposed to individual therapy would be particularly effective. However, to the best of our knowledge, this kind of intervention has never been reported among patients with HF.

The goal of the current pilot study was therefore to describe an “existentially oriented group intervention protocol for patients with HF” (EXOGI-HF). A pilot study was conducted to assess its (1) feasibility, that is, would patients with such a severe illness adhere to and collaborate with the proposed intervention, and (2) patient satisfaction, that is, would patients report that they benefited from the intervention.

## Method

### **Existentially Oriented Group Intervention Protocol for Patients With Heart Failure: Protocol Content and Development**

The theory of existential psychotherapy as described by Yalom<sup>18</sup> served as the basis for the current protocol development. Additional ideas and techniques were borrowed from specific existentially oriented manuals for treating patients who cope with other chronic, highly debilitating, and life-threatening illnesses such as cancer, given that these illnesses are known to trigger extreme existential worries.<sup>19–21</sup> Pollin and Kanaan's<sup>22</sup> Medical Crisis Counseling Model also served as a theoretical basis for the current protocol. This model includes 8 existential themes that are considered to be the most relevant when coping with a severe illness: control, self-image, dependency, stigmatization, abandonment, isolation, anger, and death. The intervention included 7 weekly 1-hour sessions, which were co-directed by 2 psychologists (the first 2 authors). Each session was dedicated to bringing up a certain topic that was relevant to the ways patients conceived of, coped with, and struggled with the illness and its implications.

### **Psychotherapeutic Sessions**

#### **Session 1: Getting Acquainted and Setting the Boundaries**

The aims of the first session were to establish group cohesion and connectedness between group members, via the enhancement of a sense of universality in regard to coping with the illness.<sup>23</sup> Universality—knowing that others share similar challenges—is thought to make it

easier for people to share intimate feelings and fears. The group leaders laid the groundwork of the meetings (eg, dates, times, length of sessions, intervention's goals) and emphasized the importance of respectful listening and commitment to the group. Each member was then invited to share thoughts, feelings, and concerns about the illness and its implications. At the end of this first session, as of each of the followings ones, participants took part in a relaxation exercise, based on the guidelines proposed by Spira.<sup>24</sup>

#### **Session 2: Integrating Past and Present Identities**

The rationale for the second session was based on the literature emphasizing how identity challenges can result from illness diagnosis<sup>25,26</sup> and on Breitbart and Appelbaum's<sup>27</sup> meaning-centered group psychotherapy principals. In this session, the metaphor of bridges was used to enable members to discuss their perceived premorbid identity as well as their current identity. Photos of many different bridges were distributed to participants with instructions to choose the 1 bridge that best described their lives and to reflect on where they were before the illness, where they are now, and where they wish to be. The aims of this exercise were to enhance narrative continuity and to integrate self-identity through the identification of meaningful and functional aspects of the self.

#### **Session 3: Finding Meaning**

The third session's goals were as follows: expressing feelings of disappointment in life, exploring belief systems, and reflecting on existential questions including the quest for meaning. In this session, an exercise based on Emily Perl-Kingsly's<sup>28</sup> short essay titled “Welcome to Holland” was applied. Participants were invited to contemplate themselves preparing for their “dream vacation” in Italy, which, to their unhappy surprise, turned out to be a vacation in Holland. This metaphor was used to explore feelings regarding life's unexpected twists and turns, and disappointments such as illnesses; it was also used to look at one's resources for coping with “a change in plan.” Feelings of anger, depression, and loss were discussed, and existential thoughts regarding the ability to find meaning and value in “Holland”—despite its not being Italy—were explored.

#### **Session 4: Medical Information**

The fourth session focused on participants' responsibility for their health. This session consisted of a psychoeducational lecture given by the head of the hospital's HF clinic (the fifth author). The physician, a cardiologist, explained what HF was and what its symptoms were, described the medical recommendations, and emphasized patients' responsibilities. The main goals of this session were to enhance a sense of agency and control, reduce anxiety, and assist in facilitating decision

making relevant to the process of adaptation to the illness.

### **Session 5: Fears and Anxieties**

The goal of this session was to provide a supportive environment in which to express feelings of anxiety due to physical losses, dependency, and fear of death<sup>13</sup> and to challenge possible catastrophic thinking biases. The group leaders presented the “box of fears,” a construct that included the beginnings of statements related to possible worries and fears (eg, “I feel anxious when I...”, “What frightens me the most is...”). Each participant was invited to pick a note from the box and complete the written statement. Group members were invited to relate to each member's disclosure.

### **Session 6: Connections**

The goals of this session included increasing awareness with regard to social networks, enhancing social skills, and improving the ability to initiate and maintain relationships. Participants were first invited to reply to the following sentence: “If you were about to immigrate to a new country, who would you take with you?” Subsequently, participants were asked to disclose 1 thing they learned from one of the group members.

### **Session 7: Farewell**

The seventh session was devoted to the inevitable ending of the intervention. The group leaders provided a box with different objects inside (eg, camera, wallet, calculator, spoon) and invited each participant to choose 2 objects: one related to feelings associated with the ending of the group and one related to a benefit that he/she received from participation in the group. An open discussion ensued, and group leaders encouraged reflection and sharing. The aim of the last session was to enhance awareness of what was achieved during the therapy and the ways in which one could implement this awareness in “real” life. Referring to unresolved issues was also important, with an acknowledgement of the setting's limits and the expressed hope that what was learned in the sessions could be used in an ongoing way.

## **Intervention Evaluation and Content Analysis Procedure**

Participants' subjective impressions of the EXOGI-HF were assessed using the Narrative Evaluation of Intervention Interview (NEII).<sup>29</sup> The NEII is a semistructured interview consisting of 16 open-ended questions designed to evaluate participants' experience of a psychosocial intervention. The grounded theory analytic approach<sup>30</sup> serves as the basis for response evaluation, and analyses of interview responses in previous studies have shown high reliability.<sup>29,31</sup>

Each EXOGI-HF interview took 35 minutes to conduct and was then transcribed. The analysis of responses included 3 stages: (1) 2 judges (psychologists)

read all of the participant responses to the interviewer's questions and independently noted and tagged the intervention's different contributions from the perspectives of the participants, (2) the 2 judges decided on the specific categories that would best describe the data, and, (3) finally, each judge independently read all of the interviews and classified the various reported contributions according to the categories that had been decided upon.

## **Participants' Enrollment**

The intervention was conducted at the Heart Failure Clinic of Meir Medical Center, a large public hospital in central Israel. Approval for conducting this study and retrieving information from the patients' medical files was obtained from the hospital's ethics committee, which conforms with the principles outlined in the Declaration of Helsinki.<sup>32</sup>

All participants signed an informed consent form. The inclusion criteria were as follows: being diagnosed as having at least medium-to-severe HF (levels III and IV, according to the classification of the New York Heart Association, which represent patients with substantial functional limitations; these patients are symptomatic even during normal daily activities such as walking, light-lifting, bathing, cooking, etc), having a left ventricular ejection fraction lower than 35% (a medium-to-severe decrease in the function of the left ventricle), and not having any additional life-threatening disease or significant functional limitation that would prevent participation (eg, a severe physical or mental disability).

The director of the Meir Medical Center's HF clinic (the fifth author) screened the entire clinic population and tracked those who were eligible. On the day when recruitment was initiated, 125 patients were registered in the clinic. Of these 125 patients, 93 (74.4%) exhibited the inclusion criteria for HF severity of level III and higher. Of these 93 patients, 54 (58%) experienced difficulties (had a significant functional limitation, did not speak Hebrew, had another life-threatening illness, had transient HF, had a severe mental illness, or lived too far away), which would have prevented them from attending the sessions, and they were therefore excluded. Thus, 39 patients (42%) were found to be eligible to participate.

A letter of invitation, which included a description of the intervention and its goals, was sent to these 39 patients. A week later, the second author phoned each one of them and extended a personal invitation to take part in the study. Fourteen refused to participate because of lack of interest or time. Therefore, the final sample consisted of 25 patients (64% of all eligible patients). For technical reasons (ie, the timing of the proposed interventions, which was not agreeable to all of

the patients), randomization was not possible. These 25 patients were therefore divided into 2 consecutive groups according to patients' preferences regarding timing (13 and 12 participants in the first and second groups, respectively). It should be noted that the intervention was provided free of charge for all participants.

Four participants dropped out after the first meeting of the first group (a 31% dropout rate in the first group). As for the second group, 6 participants declined to enroll once the intervention was about to begin, because of time limitations or deterioration in their health conditions. Two additional participants left after the first meeting, and another one missed 3 meetings (a 75% dropout rate in the second group).

Two weeks after the end of the second group, 11 participants (8 from the first group and all 3 from the second) agreed to take part in a semistructured interview recording their subjective impressions of the EXOGI-HF experience.

## Results

### *Sample Characteristics*

Of the 25 patients who initially agreed to participate in the groups, 18 agreed to fill in the sociodemographic questionnaires. Of these 18 participants, 13 (72%) were men and 5 were women, ranging in age from 50 to 93 years (mean [SD], 75.94 [10.84] years), most of them with diagnoses of level III HF (83.33%). Thirteen participants (72%) described themselves as being in intimate relationships, and 5 (28%) described themselves as widowers or widows. Participants' years of education ranged between 6 and 25 (mean [SD], 11.82 [5.35]). Six participants (33.3%) described their economic situation as good; 5 (27.7%), as average; and 6 (33.3%), as bad. No significant differences were found between those participants assigned to the first group and those assigned to the second group in any of the sociodemographic variables.

The 12 participants who participated in all the group sessions provided full demographic data; six of those who dropped out provided data. There were no differences in any of the demographic variables between these 2 groups.

### *Perceived Contribution of the Intervention*

With regard to the level of perceived satisfaction, 6 participants (54.5%) considered the intervention as having made a large contribution; 3 (27.3%), as having made a medium contribution; and 2 (18.2%), as having made a small contribution. In addition, when asked about their willingness to participate in a similar intervention in the future and whether they would be likely to recommend participation to others, most of the participants ( $n = 9$ , 81%) answered positively.

On the basis of participants' responses to the NEII, 4 domains of improvement were identified: personal growth, social support, self-worth, and mastery. Most participants (72.7%) reported experiencing personal growth as a result of their participation in the intervention. Half of the participants (54.5%) reported an increase in the social support they received due to their participation in the group. In particular, they expressed the importance of sharing feelings with others. Almost half of the participants who participated in the groups (45.5%) reported an increase in their feelings of self-worth, especially because they felt they had improved in their ability to be helpful to others. Almost a third of all participants (27.3%) reported the acquisition of mastery and coping skills.

## Discussion

The current pilot study was the first to describe the development of an existentially oriented group intervention designed to alleviate the emotional distress of patients coping with HF (EXOGI-HF). The current pilot study was preliminary, aiming primarily to describe the intervention's development and content, to test its feasibility, and to explore patients' subjective experience of it.

Despite the enthusiasm patients expressed when they were first told about this intervention, very few were ultimately able to attend the sessions or wanted to. Difficulties in making an ongoing commitment to the group, issues with scheduling and/or transportation, and lack of interest were some of the reasons provided for nonparticipation. It was also noted that the enthusiasm of many of those patients who were scheduled to take part in the second group, but had to wait 2 months for the opening of the second group, waned over time. Thus, the idea of the current intervention format consisting of 7 weekly sessions, and taking place in the hospital setting, should be reconsidered.

Yet, those patients who did join the groups, and were committed to attending the sessions, were active participants; they contributed a great deal to each meeting. We found the patients' seriousness and devotion to the process in some cases—as evidenced by, among other things, their efforts to avoid missing sessions (1 patient came with his personal nurse, one had to use a walker to arrive, etc)—very impressive.

The qualitative findings showed that patients who persisted in attending the group sessions found the intervention worthwhile and valued it enough to recommend it to others. Participants reported making progress in 4 major domains—personal growth, social support, self-worth, and mastery—all of which are known to be associated with psychological well-being and improved health-related measures<sup>33–35</sup> and are the focus of many group psychotherapies designed for patients.<sup>36,37</sup>



### What's New and Important

- We introduce a novel existentially oriented group intervention for patients with HF.
- Participants reported progress in personal growth, social support, self-worth, and mastery.

### Limitations and Suggestions for Future Studies

The current pioneer pilot study, being preliminary, had several limitations that future, more comprehensive studies should aim to overcome. First, the small sample size limits statistical analysis. Future studies should use larger samples and assess outcome measures such as depression and anxiety indexes, as well as quality of life, coping skills, personal growth, and meaning-finding. Future studies should also implement randomization and adhere to the strict requirements of randomized controlled clinical trials to assess the unique contribution of the EXOGI-HF compared with treatment as usual or other interventions. Because of the high drop-out level in the current trial, a much shorter intervention format should be tested.

In summary, the current preliminary pilot study presents the protocol for a new existentially oriented intervention for patients coping with HF. These patients, despite their struggles with a particularly debilitating illness, are often neglected in terms of their psychological needs. Indeed, creativity is needed to come up with a format that is more conducive to patients' limitations. Our preliminary experience is encouraging. Patients with HF who are willing to join an intervention group are not afraid to share existential worries. To the contrary, they seem to enjoy the opportunity to discuss them and, furthermore, they benefit from these discussions. Nurses should therefore be encouraged to apply short interventions tapping existential worries with cooperative patients. More research is needed to establish feasibility and efficacy before assimilating the EXOGI-HF into medical settings in the hopes of improving patients' well-being.

### Acknowledgment

The study is partially based on the second author's thesis submitted to the Senate of Bar Ilan University.

### REFERENCES

1. Ponikowski P, Voors AA, Anker SD, et al. ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC). Developed with the special contribution of the Heart Failure Association (HFA) of the ESC. *Eur J Heart Fail*. 2016;37(27):2129–2200. doi:10.1093/eurheartj/ehw128.
2. Mozzafarian D, Benjamin EJ, Go AS, et al. On behalf of the American Heart Association Statistics Committee and Stroke Statistics Subcommittee. Heart disease and stroke statistics—2016 update: a report from the American Heart Association. *Circulation*. 2016;133:38–360. doi:10.1161/CIR.000000000000152.
3. Moser DK, Worster PL. Effect of psychosocial factors on physiologic outcomes in patients with heart failure. *J Cardiovasc Nurs*. 2000;14:106–115. http://dx.doi.org/10.1097/00005082-200007000-00008.
4. Celano CM, Villegas A, Albanese A, et al. Heart failure: psychological and pharmacological considerations. *Psychiatr Ann*. 2016;46:691–701. doi:10.3928/00485713-20161102-01.
5. MacMahon KM, Lip GY. Psychological factors in heart failure: a review of the literature. *Arch Intern Med*. 2002;162:509–516. http://dx.doi.org/10.1001/archinte.162.5.509.
6. Kessing D, Denollet J, Widdershoven J, et al. Psychological determinants of heart failure self-care: systematic review and meta-analysis. *Psychosom Med*. 2016;78:412–431. doi:10.1097/PSY.0000000000000270.
7. Gathright EC, Goldstein CM, Josephson RA, Hughes JW. Depression increases the risk of mortality in patients with heart failure: a meta-analysis. *J Psychosom Res*. 2017;94:82–89. doi:10.1016/j.jpsychores.2017.01.010.
8. Celano CM, Villegas AC, Albanese AM, Gaggin HK, Huffman JC. Depression and anxiety in heart failure: a review. *Harv Rev Psychiatry*. 2018;26:175–184. doi:10.1097/HRP.0000000000000162.
9. Hoffman BM, Sherwood A, Blumenthal JA, et al. Biobehavioral interventions in heart failure. In: Mostofsky DI, ed. *The Handbook of Behavioral Medicine*. Oxford, England: John Wiley & Sons; 2014:621–648. doi:10.1002/9781118453940.ch30.
10. Moser D, Stebenon L. Biobehavioral therapy in the management of patients with heart failure. In: Moser DK, Reigel B, eds. *Improving Outcomes in Heart Failure: An Interdisciplinary Approach*. Gaithersburg, MD: Aspen; 2001:152–162.
11. Norman J, Fu M, Ekman I, et al. Effects of a mindfulness-based intervention on symptoms and signs in chronic heart failure: a feasibility study. *Eur J Cardiovasc Nurs*. 2018;17(1):54–65.
12. Melin M, Hägglund E, Ullman B, Persson H, Hagerman I. Effects of a tablet computer on self-care, quality of life, and knowledge: a randomized clinical trial. *J Cardiovasc Nurs*. 2018;33(4):336–343.
13. Leeming A, Murray SA, Kendall M. The impact of advanced heart failure on social, psychological and existential aspects and personhood. *Eur J Cardiovasc Nurs*. 2014;13(2):162–167.
14. Lehto RH. The challenge of existential issues in acute care: nursing considerations for the patient with a new diagnosis of lung cancer. *Clin J Oncol Nurs*. 2012;16(1).
15. Lo B, Quill T, Tulsy J. Discussing palliative care with patients. *Ann Intern Med*. 1999;130(9):744–749.
16. Hopp FP, Thornton N, Lindsey M. The lived experience of heart failure at the end of life: a systematic literature review. *Health Soc Work*. 2010;35:109–117. doi:10.1093/hsw/35.2.109.
17. Murberg TA. Long-term effect of social relationships on mortality in patients with congestive heart failure. *Int J Psychiatr Med*. 2004;34:207–217. doi:10.2190/GKJ2-P8BD-V59X-MJNQ.
18. Yalom ID. *Existential Psychotherapy*. New York, NY: Perseus Books Group; 1980.
19. Breitbart W. *Meaning-Centered Psychotherapy in the Cancer Setting*. Oxford, England: Oxford University Press; 2017.
20. Breitbart W, Rosenfeld B, Gibson C, et al. Meaning-centered group psychotherapy for patients with advanced cancer: a pilot randomized controlled trial. *Psychooncology*. 2010;19:21–28. doi:10.1002/pon.1556.
21. Spiegel D, Classen C. *Group Therapy for Cancer Patients: A Research-Based Handbook of Psychosocial Care*. New York, NY: Basic; 2000.

22. Pollin I, Kanaan SB. *Medical Crisis Counseling: Short-Term Therapy for Long-Term Illness*. New York, NY: WW Norton & Co; 1995.
23. MacKenzie KR, Livesley WJ. A developmental model for brief group therapy. In: Dies RR, MacKenzie KR, eds. *Advances in Group Psychotherapy: Integrating Research and Practice*. New York: American Group Psychotherapy Association and International Universities Press; 1983:101–116.
24. Spira JL. Understanding and developing psychotherapy groups for medically ill patients. In: *Group Therapy for Medically Ill Patients*. 1997:3–51.
25. Lively KJ, Smith CL. Identity and illness. In: Pescosolido B, Martin J, McLeod J, et al, eds. *Handbook of the Sociology of Health, Illness, and Healing*. New York, NY: Springer; 2011:505–525.
26. Segal O. I am not myself, but I am not an other. In: Severson ER, Goodman DM, eds. *Memories and Monsters: Psychology, Trauma, and Narrative*. New York: Routledge; 2018:137.
27. Breitbart W, Applebaum A. Meaning-centered group psychotherapy. In: Watson M, Kissane DW, eds. *Handbook of Psychotherapy in Cancer Care*. New York, NY: John Wiley and Sons; 2011:137–148.
28. Perl-Kingsly E. Welcome to Holland. Available at <http://www.our-kids.org/archives/Holland.html>. 1987.
29. Hasson-Ohayon I, Kravetz S, Roe D, et al. Qualitative assessment of verbal and non-verbal psychosocial interventions for people with severe mental illness. *J Ment Health*. 2006;15:343–353. doi:10.1080/09638230600700847.
30. Strauss A, Corbin J. Grounded theory methodology: an overview. In: Denzin NK, Lincoln YS, eds. *Handbook of Qualitative Research*. California: Sage Publications; 1994:273–285.
31. Levy-Frank I, Hasson-Ohayon I, Kravetz S, et al. A narrative evaluation of a psychoeducation and a therapeutic alliance intervention for parents of persons with a severe mental illness. *Fam Process*. 2012;51:265–280. doi:10.1111/j.1545-5300.2012.01398.x.
32. PP R. Human experimentation. Code of ethics of the world medical association. Declaration of Helsinki. *Br Med J*. 1964;2(5402):177.
33. Frick U, Gutzwiller FS, Maggiorini M, et al. A questionnaire on treatment satisfaction and disease specific knowledge among patients with acute coronary syndrome. II: insights for patient education and quality improvement. *Patient Educ Couns*. 2012;86:366–371. <http://dx.doi.org/10.1016/j.pec.2011.06.004>.
34. Vilchinsky N, Dekel R, Leibowitz M, et al. Dynamics of support perceptions among couples coping with cardiac illness: the effect on recovery outcomes. *Health Psychol*. 2011;30:411–419. doi:10.1037/a0023453.
35. Ya-Ling L, Dong-Tsamn L, Shu-Feng T. Disease knowledge and treatment adherence among patients with thalassemia major and their mothers in Taiwan. *J Clin Nurs*. 2009;18:529–538.
36. Folkman S, Greer S. Promoting psychological well-being in the face of serious illness: when theory research and practice inform each other. *Psychooncology*. 2000;9:11–19. [http://dx.doi.org/10.1002/\(SICI\)1099-1611\(200001/02\)9:1%3C11::AID-PON424%3E3.3.CO;2-Q](http://dx.doi.org/10.1002/(SICI)1099-1611(200001/02)9:1%3C11::AID-PON424%3E3.3.CO;2-Q).
37. Leszcz M, Goodwin P. The rationale and foundations of group psychotherapy for women with metastatic breast cancer. *Int J Group Psychother*. 1998;48:245–274.