Community Ment Health J (2010) 46:409–415
DOI 10.1007/s10597-009-9234-3

ORIGINAL PAPER

Mediated Learning Experience Intervention Increases Hope of Family Members Coping with a Relative with Severe Mental Illness

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Received: 17 January 2009 / Accepted: 27 July 2009 / Published online: 9 August 2009
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Abstract Hope is central in recovery of the mentally ill, and family attitudes play an important role. Hope may be mediated by cognitive and communication processes. The "Keshet" program is aimed at enhancing communication of family members with the use of cognitive pathways. The present pilot study examines whether the program effectively increases hope in family members in regard to themselves versus their hope for their ill relative. Methods: Forty nine family members who participated in the "Keshet" program for 6 months comprised the experimental group. The control group comprised 22 family members who underwent no structural intervention. Hope was measured at baseline and after 6 months using the Hope Scale developed by Snyder. No difference in self-perception was detected in Hope Scores between groups. However, the experimental group displayed a significant increase in their hope toward the ill relative with a concomitant decrease in the gap between hope of family members in relation to themselves versus their hope toward the ill person. "Keshet" significantly increased hope of families concerning the ill person, while decreasing the gap between hope of family members regarding themselves and the affected person. Thus, the program may contribute to the increase of the families' hope in the recovery journey of mentally ill family members.

Keywords Mental illness · Cognitive intervention · Family · Hope · Quasi-experimental

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Introduction

The importance of recovery among the mentally ill has become recognized recently. The term 'recovery' has two meanings. Firstly it relates to an objective outcome, a point at which there is lack of evidence of illness, similar to a 'cure' as in medical models. Secondly it focuses on a subjective attitude or orientation asserting that, regardless of state of illness, people can hope and feel capable of expanding their personal abilities and making their own choices (Resnick et al. 2005). In this sense, recovery does not mean that the disability disappears, rather that building of self and social identity takes place as a result of acknowledgment of the illness (Anthony 2000). The 'recovery of mental health' paradigm has evolved mainly from the strong consumer movement in the 1990's as a response to disappointment with traditional medical models.

In psychiatric rehabilitation, recovery is defined as a process that enables people with mental disabilities to rebuild connections to themselves, to society, and to their environment and spiritual world, while dealing with the stigma that exists around them (Davidson and Strauss 1995).

Many studies have confirmed hope to be crucial in the mental health recovery process, both in patients (Resnick et al. 2005; Ralph 2000; Kirkpatrick et al. 2001; Roe et al.

2004), and *in their families* (Bernheim et al. 1984; Terkelsen 1987).

Hope is defined as a positive cognitive state based on a feeling of success in both the planning of a goal and the willpower to achieve it (Snyder et al. 1991). Snyder's Theory of Hope is built on cognitive information bases which assert that people act according to objectives or goals (some conscious and some subconscious), and that in order to reach these objectives, there has to be a 'way' or 'path'. The theory is comprised of two main elements: Pathway thoughts (problem solving) and Agency thoughts (motive/will power). In 1988 Snyder developed a valid and reliable questionnaire to measure the extent of hope. It measures hope in various situations involving both healthy and ill people (Snyder 1995; Snyder et al. 1997, 1998).

The outbreak of a mental illness is a traumatic event generally accompanied by extensive crisis and stress which are continuous and destructive to the family unit in general and to parents in particular (Tucker et al. 1998; Lowyck et al. 2004). The burden experienced by family members, regardless of whether or not the ill person lives at home, can be life-changing. For people taking care of family members with schizophrenia, the obligation can last a lifetime (Lowyck et al. 2004).

Since the deinstitutionalization policy started in the 1980's many families agreed or felt forced to take ill family members' into their home. In the Western world more then 42% of people with mental illnesses are reported to be living with their families on a permanent basis (McFarlane et al. 1995). In Israel it is estimated that 70% reside with their families (Shamir 2006). Families become deeply involved in long term interaction and treatment of the mentally ill person, whether s/he returns to the family home, moves to his own apartment or lives in a protected tenancy (Lowyck et al. 2004; Kreisman and Joy 1974).

The family environment, is an inherent part of the recovery process (Liberman et al. 2002) and is considered a primary social environment in which individuals' cognition and cognitive modifiability develop. The importance of emphasizing the families role in the process of consumer recovery can be enhanced by broadening the research focus to include systematic changes that promote making family members a part of the treatment team (Glynn et al. 2006).

Hope is a major element in this setting and in the family's ability to cope with illness (Darlington and Bland 2002). Not only is it important that the healthy family members feel hopeful, but the mode of projecting positive hope towards the ill family member may be even more important. The healthy family member's perception of hope toward her/himself and her/his perception of hope toward the ill family member may be different.

Intervention programs for families dealing with mental illness are generally classified as support and/or psycho educational groups (Bayer 1996; King and Dixon 1995). Common programs provide information concerning the illness itself, medications and community services, social and cognitive skills such as establishing mutual respect, respecting different opinions, problem solving techniques or learning how to see a solution from a number of perspectives.

"Keshet" (from the Hebrew—"advancement, cooperation and communication") is a didactic academic course which provides tools for communication in a cognitive way within and outside the family, in relation to coping with a family member who suffers from a psychiatric illness and in relation to the family's life in general (Hadas-Lidor and Weiss 2005; Hadas-Lidor et al. 2006; Hadas Lidor and Lachman 2006). The course is based on Feurstein theory that human learning occurs either by direct exposure to a stimulus or indirectly via a human mediator between the stimulus and the individual or between the individual and his/her outcome (Feuerstein et al. 1979, 1980; Feuerstein and Feuerstein 1991). The mediator in this model adjusts the stimuli, filters, emphasizes, enables, changes and processes it in a way that the learner will understand. Feurstein further maintained that by using Mediated Learning Experience (MLE) interventional approach, individual cognitive structures can be changed at any age and in any health status ("*Structural Cognitive Modification*").

Based on previous case reports and initial studies employing MLE prinicples to improve cognitive skills in psychiatric rehabilitation (Katz and Hadas 1995; Hadas-Lidor 1997), Hadas-Lidor has transfered MLE prinicples from the educational settings into the health related fields (Hadas-Lidor and Weiss 2005; Hadas-Lidor 1997) and has established them as the core of Keshet intervention for improving cognitive skills in families.

Since positive cognitive changes are central to increasing hope, it is reasonable to assume that an intervention aimed to enhance cognitive skills will result in increased hope.

It is unknown whether the "Keshet" program increases hope within family members.

The object of this pilot study was to answer the following questions:

1. Does the "Keshet" program increase hope of family members of persons experiencing mental illnesses?
2. Does the program affect the gap between the perception of hope of the family members towards themselves versus the perception of hope they have toward the mentally ill family member?

Methods

Participants

This study included family members of persons with any mental illness. Inclusion criteria for the experimental group included one or more family members diagnosed with a mental illness and completion of the "Keshet" program. Exclusion criteria included participation in any other concurrent intervention, an inability to understand Hebrew or to complete the study questionnaire.

Control participants were recruited in social and informative occasional gatherings of various organizations for family members of patients with mental illness. Inclusion criteria for this group included one or more family members diagnosed with mental illness and no participation in the "Keshet" program. Exclusion criteria were the same as for the study group.

Intervention

The experimental group participated in the "Keshet" course. The program focuses on teaching participants about cognition and how it relates to everyday functioning combined with training of communication skills from a mediative perspective. The course includes intentional sharing and accessibility to knowledge previously held chiefly by professionals. This is accomplished by concentrated use of recovery, cognitive modifiability, and MLE terminology and by the use of actual Meaningful Interactional Life Episodes (MILE's) written by the parents themselves. The 45 h biweekly course (15 group meetings) consisted of lectures, workshops, MILE's, group discussions, screening films and reading articles. The course was intended for family members only and not patients. Participation was voluntarily and unpaid. The groups ($\sim$18 participants in each) were closed, attendances averaged 85% and completion rate reached 91%.

The control group was made up of participants who were enrolled during social gatherings intended for families for whom at least one family member was coping with a mental health illness. These participants did not receive any structural intervention, such as a support group, during the study period. Control subjects who started any family education intervention during the study period (3 subjects) were excluded from the analysis.

Outcomes

The study had a single outcome-namely the Hope Scale as measured by Snyder's Hope 12 items questionnaire (Snyder et al. 1991) in its Hebrew version, (Dobrov 2002).

Four items measure motivation/will power (agency) which motivate the person in the direction of the goal he has set (e.g.,: "I pretty much succeeded in life"). Four other items reflect the pathway/solutions elements, i.e., a person's cognitive evaluation regarding his ability to create the means to overcome obstacles and achieve his goals (e.g.,: "I can think of many ways to get out of a tricky situation"). The remaining items functioned as distracters.

Items are rated on a scale from 1 to 8 (1—far from the truth, 8—very true). Each measure in the current study was calculated as the average of items it comprised. Each study subject had 3 scores; i.e., for motivation/will power; for pathway/solution and a total score (calculated by averaging the answers of the subject to items that reflect motivation/will power with answers to items that reflect pathway/solutions).

Psychometric evidence: Snyder et al. (1991) reports Kronbach α reliability for total score 0.74–0.84; for pathway/solutions 0.6–0.8 and for motivation/will power 0.71–0.82. Test and retest reliability was 0.85 over a period of three weeks, and post 8 weeks it was 0.83. After 10 weeks reliability was between 0.82 and 0.76.

Snyder et al. (1991) reports high correlations between the hope measure and optimism, expectation to succeed, self control, feeling of ability to solve problems and self esteem. The measure negatively correlates with feelings of lack of hope, and depression, and has strong anticipatory capacity for cognition and feeling. For example, people with a high score on the questionnaire had higher academic accomplishments and took upon themselves more tasks and challenges.

Two identical questionnaires were completed for each subject-one was related to hope of the family members towards themselves while the other was related to the perception of hope of the family members toward the mentally ill family member.

Study Procedure

Authorization from the Haifa University Institutional Review Board was received. All participants signed informed consent. The participants filled out the questionnaire by hand and additionally completed a demographic form. The questionnaire was filled out in the presence of one of the researchers. Each questionnaire was numbered and coded. Analysis was done blind to the subjects' assignments. The experimental group filled out a questionnaire before and after participation in Keshet. The control group filled out the questionnaire at the beginning of the research and 6 months later. The main variable was change in the conception of hope among family members before and after intervention, in relation to self and in

addition, regarding the ill family member. Furthermore, the gap between these two measures was also calculated.

Data Analysis

The data was analyzed and processed using SPSS.14 software. Descriptive statistics included averages, standard deviations, frequencies and percentages. Correlations between demographic data and the research variables were examined as were differences between and inside the groups, before and after, by analyzing differences for repeated measures. Paired *T* tests were conducted in order to examine differences before and after the intervention separately in each group.

Results

Ninty seven people participated in the study, 65 in the experimental group and 32 in the control group. At the end of the intervention, 71 participants filled out the questionnaires, 49 from the experimental group and 22 from the control group. Those who did not attend the final meeting during which the 2nd questionnaire was delivered, and who, despite repeated attempts, could not be reached, were considered to have dropped out of the study. There were no significant differences between the groups demographic data with particular reference to participants family relationship to the ill person or their medical diagnosis (Table 1). Similarly, there was no difference in baseline scores between the participants who completed the study (filled 1st and 2nd questionnaire) and those who dropped out during the study. Kornbach α reliability of the motivation/will power measures in the Hope Questionnaire were between 0.60 and 0.80, and for the pathway/solutions measure were between 0.75 and 0.83.

Both groups were similar in the total score regarding their self perception of hope, before and after the study (Table 2).

However, there were significant differences in the total score of the perception of hope for the ill family member between the two groups. The experimental group showed a significant increase in the total score of hope ($T = 2.54$, $P = 0.01$) after participation in Keshet, whereas no change was observed in the control group.

No difference was found between the groups in the specific elements of hope—motivation/will power and pathway/solution regarding self perception of hope either before or after the intervention. However, with respect to their feelings of hope regarding the ill family member, the experimental group's motivation/will power measure increased significantly ($P = 0.01$) from 3.9 to 4.3, and the pathway/solution measure from 3.7 to 4.2 ($P = 0.03$). The control group demonstrated no changes in these parameters before or after the intervention.

There was a significant difference in the gap (total Hope Score of self vs. patient) between the groups before and after intervention ($P = 0.01$). The gap in the experimental group of the total score was 2.4 before the intervention and decreased to 2.0 after intervention ($P = 0.02$, Table 3).

Table 1 Demographic characteristics

Feature	Experimental	Control*
Number of participants	49	22
Age (mean years)	57.1	57.1
Educational background (years)	14.4	13.9
Women (%)	83	76
Native Israelis (%)	66	57
Religion-seculars (%)	68	61
Relation to the family member (%)		
Mother	80	71
Father	14	20
Brother, sister, partner	6	9
Ill family member lives with (%):		
Parents	50	54
Alone	14	23
Rehabilitative institute	26	20
Occupation of ill family member		
Do not work or study (%)	54	47
Diagnosis (%)		
Schizophrenia	60	58
Bipolar	7	10
OCD	4	5
Anxiety	4	3
Others (less than 2% per diagnosis)	4	5
Unknown (including non-responders)	21	19

* No significant difference ($P > 0.05$) in any of the features between two groups

Table 2 Hope scores before and after intervention

	Self				Patient			
	Experimental		Control		Experimental		Control	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
Motivation	6.00	6.2	6.0	6.0	3.9	4.3*	3.5	3.7
SD	1.0	1.1	1.2	1.0	1.7	1.6	2.3	2.2
Pathway	6.4	6.3	6.0	6.5	3.7	4.2**	3.7	3.7
SD	1.0	1.3	1.2	0.8	1.9	1.7	2.2	2.1
Total score	6.2	6.3	6.0	6.3	3.8	4.3*	3.6	3.7
SD	0.9	0.9	1.1	0.9	1.7	1.4	2.2	2.1

* $P = 0.01$ versus Pre values

** $P = 0.03$ versus Pre values

Table 3 The gap between the healthy family members' self perception of hope and the perception regarding the mentally ill family member

	Gap			
	Experimental		Control	
	Pre	Post	Pre	Post
Motivation	2.1	1.9*	2.5	2.3
SD	2.1	2.1	1.8	1.9
Pathway	2.7	2.1*	2.3	2.7
SD	2.1	2.2	2.0	2.1
Total score	2.4	2.0*	2.4	2.6
SD	1.8	1.9	1.9	2.1

* $P = 0.02$ versus Pre values

The gap in the control group of the total score showed no significant decrease. The difference in the gap of the total score was attributed mainly to differences in pathway/solution measures. The gap of the pathway/solution in the experimental group before intervention was 2.7 and decreased to 2.1 ($P = 0.02$) post intervention. The control group gap was 2.3 prior to the intervention, increasing to 2.7 post-intervention ($P =$ ns).

Subgroup analysis to account for possible confounders (e.g., relationship—parent versus sibling, living situation—living with family versus independent housing) did not reveal any effect on the results.

Discussion

This pilot study examined two questions: (1) Does participation in the "Keshet" program increase hope in families of people who cope with psychiatric illnesses? And, (2) Does "Keshet" change the gap between self perception of hope and hope regarding ill family members? The results of this pilot study show that hope among the participants in regard to themselves increased only slightly following participation in "Keshet" with no significant difference between the experimental and control groups. However, hope of participants regarding ill family member significantly increased following "Keshet," whereas no change was found in the control group.

As to the second question, it appears that the "Keshet" program significantly changed the gap between hope within the family members regarding themselves and hope regarding the ill family member.

Previous research has shown hope to be a crucial factor in the recovery process. Hope has been identified as a vital element in the process of the family's dealing with the ill family member (Bernheim et al. 1984; Terkelsen 1987; Wasow 1995), yet there is a lack of information regarding the influence of various family interventions on their hope. The present study is one of the first to examine directly the influence of a specific intervention on hope within the family. Furthermore, the study not only examines hope of the family member regarding himself, but also compares it to the hope regarding the mentally ill family member. In addition, it demonstrates how a specific intervention can affect differences between these perceptions.

All of the participants in this study had an average measure of hope regarding themselves at the start of the research between 6.0 and 6.4 (out of a maximal score of 8). These are relatively high hope scores and are similar to the 6.3 score that Snyder et al. (1998) reported among healthy people. This level of hope may have been due to a "ceiling effect", partly explaining the reason that no further increase was observed in that measure.

In contrast to the perception of hope within family members regarding themselves, the measured perception of hope regarding the ill family member in all groups was lower almost by half, ranging between 3.5 and 3.9 at the onset of the research. This is also true regarding both the total score of hope as well as the two Hope elements (motivation/will power and pathway/solution).

The current finding of a significant gap between the family member's perception of hope regarding themselves and between the perception regarding the ill family member is unique. Several explanations are possible. Emotional reactions to the psychiatric illness of a relative include fear, guilt, denial, sadness, grief and empathy. Social stigma might result in feelings of fury, insult or serious depression and social regression (Lefley 1987) thus strengthening feelings of shame, embarrassment and blame. Being a relative of a person dealing with a psychiatric illness may create an especially difficult position for the healthy family member, who might, himself, suffer from stigma and discrimination simply by being related to a mentally ill person, resulting in negative feelings, attitudes and decreased hope regarding recovery potential.

In an attempt to deal with this complex and problematic burden position, family members may choose differing coping mechanisms. One way of coping is to differentiate between oneself and the person cared for, for example, differentiating self perception of hope from hope regarding the ill family member. It is possible to assume that the perception of hope regarding the ill family member will be lower than the perception of hope regarding themselves. The difference in hope felt by the healthy family member towards himself as opposed to hope for the ill member depicts the gap that is formed in the perception of hope. This gap was similar in both groups at the beginning of the research, remaining unchanged in the control group, but decreasing significantly in the experimental group following intervention, i.e., there was a decrease in the gap

between self perception of hope and hope for the ill family member concerning motivation and will power from 2.1 at the beginning of the study to 1.9 after the research. A decrease in the gap concerning pathway/solution from 2.9 at the beginning of the study to 2.1 after the study was also noted. This effect appears to be connected to "Keshet" program intervention/participation. During the intervention, participants receive tools and skills for enhancing communication with the ill family member (Hadas-Lidor and Weiss 2005, 2007), and as a result of this, perception of hope regarding the ill family member may be directly affected. Hence, healthy family members are less dependent on the need to separate themselves from the ill family member. The decrease in separation may be the cause for the decreased gap.

The effect of "Keshet" course on the gap was greater in the pathway/solution element than the motivation/will power element. The reason for this is probably the program's emphasis on promoting awareness and strengthening the participant's aptitude and skill in creating multiple diverse ways of solving problems and reaching aspired goals. The main purpose of the course is to teach family members to understand themselves, their behavior and how to change their behavior in order to deal with different problems by the most suitable approach (Hadas-Lidor and Weiss 2005, 2007).

An interesting finding is that the perception of hope of the experimental group regarding themselves did not change during the study. This may possibly be due to the fact that the perception of hope among subjects was initially higher (as with any other healthy person), hence the chance of change is smaller when compared to their perception regarding the patient, which started out as low.

Some limitations to the study must be acknowledged. First, this was not a randomized control trial (RCT) and the comparative group may not represent a real placebo arm as they lack the similar frequency and framework of an intervention group. Secondly, this study examined only short term effects of the "Keshet" program on hope. Feuerstein (Feuerstein and Feuerstein 1991) claimed that the influence of MLE on cognitive changes remains consistent and evolves even after the intervention itself ends. It is possible that findings from the current research regarding "Keshet"s effects on the perception of hope concerning the patient and the gaps, will persist in the long run, therefore presenting a need to examine the long term effects of "Keshet".

Another limitation is that the research did not examine hope among the patients themselves. It is likely that the positive influence on the family members (for example, the decrease of the hope gaps between the self and the patient) following the intervention will affect the ill family members themselves. Thus, further studies that will focus on the effects of the "Keshet" program on the hope among the mentally ill family members themselves are warranted.

Conclusions

This pilot study examined the influences of a cognitive dynamic intervention group program named "Keshet" (advance, sharing and communication) on the perception of hope among family members of people with psychiatric illnesses.

The results of this study show that the "Keshet" program significantly increases the perception of hope among the participants regarding the mentally ill family member, and decreases the gap between the healthy family members' self perception of hope and the perception regarding the mentally ill family member. Further RCTs to confirm these effects including comparisons with established psycho-educational programs are warranted.

Acknowledgments The author(s) report no financial or other relationship relevant to the subject of this article. The authors are grateful to all the families who participated in the study.

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