

# The Effectiveness of Group Hope Therapy on Hope and Depression of Mothers with Children Suffering from Cancer in Tehran

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## Abstract

**Background:** Researches mainly focus on patients who suffer from cancer. Families and parents have been neglected in these researches although they experience levels of stress, depression and anxiety. This research aims at studying the effectiveness of Hope Therapy based on group therapy on hope and depression of mothers with children suffering from cancer in Aliasghar Children's Hospital, Tehran (2010).

**Methods:** In this applied and semi-experimental research, 20 mothers were selected based on Snyder Hope Scale and Beck Depression Inventory (pre-test). They were randomly assigned into two groups of experimental and control. Intervention based on Hope Therapy protocol was executed on the experimental group for eight weeks (eight sessions, each lasted for 2 hours). Afterwards, post-test was performed for both groups. After eight weeks, the experimental group completed questionnaires and the follow up phase.

**Results:** Results demonstrated that Hope Therapy increases hope ( $p < 0.05$ ), and decreases depression in mothers of children with cancer ( $p < 0.001$ ).

**Conclusion:** Covariance analysis indicated that Hope Therapy significantly decreases depression and increases hope of mothers whose children suffer from cancer. Follow up results showed no significant changes in hope of this group of mothers in the two months after post-test, but depression was decreased significantly during this period. It was concluded that effectiveness of Hope Therapy may be continued during the follow up phase.

**Keywords:** Hope Therapy; Mother; Child; Neoplasms; Depression

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## Introduction

For a long time, therapists believed that reducing negative signs leads to mental health and effective performance. However, given the emergence of positive psychology, nowadays, it has been approved that this belief is wrong.

Pathology based approach brings up two problems. First of all, most of people are not psychological patients; experts utilize adaptation disorder diagnosis referring to these clients. These patients are not seeking a cure for their illnesses, but they look to promote their life quality. Secondly, even if clients have mental problems, and if the therapy concentrates on past shortcomings instead of client's potentials and wishes, effective solutions may not be given.

After the presentation of Hope Therapy by Snyder et al. (1991) and a scale to assess it, large body of researches have tried to study the relation of hope with other factors of mental and physical health. During the past few decades, experts of psychotherapy have concluded that hope should be considered as the common factor of many therapies.

Cancer has huge changes, pressures and effects on patients' and their family members' lives. The quality of response to the occurrence of cancer depends on many aspects, such as patients and their mental structures, family and social context, disabilities and dimorphisms which have been caused. It can affect all different aspects of patient's life. Crises which are caused by cancer put mind, body and soul into imbalance and disorganization. However, the most

common experienced state in this situation for patient and his/her family is despair and hopelessness [1].

Comparing to other chronic discomforts, cancer has the deepest effect on hope. Therefore, seeking a therapy which considers hope as a changed factor is of great importance for patients suffering from cancer [2].

Depression is among probable reactions to cancer. This reaction may occur right after occurrence of the illness or a while after it. Depression necessitates full surrender to the illness [1].

Hopeful thinking and cancer are related via two ways. First, hopeful individuals concentrate more on their problems and try to solve it. Second, hopeful people experience less distress while encountering

cancer diagnosis and adapt more effectively to it [3].

Since adaptation of children suffering from cancer is significantly affected by parent's and other family members' psychological factors [4], and given the fact that researches on Hope Therapy have been directly conducted on patients suffering from cancer, this question has been presented: if Hope Therapy is conducted on patients' families, specifically their mothers, how does it affect these mothers?

The important point is that most cases of cancers in children are treatable. Based on Hope Therapy presuppositions neither 100% achievable goals nor aimless goals (0%) are defendable. In fact, people see Hope as a motivator, when they pursue average

**Table 1.** Hope Therapy Protocol

Session Goals	Educational Component	Homework Assignment
1 Introduction to Hope theory	Definition of goal and obstacles. Finding ways to reach goals. Strategies to keep our motivations.	<ul style="list-style-type: none"> <li>List of goals that are important and have been postponed</li> </ul>
2 Emotions come from blocked goals and reaching goals	Blocked goals are against our willpower and reached goals motivate our willpower.	<ul style="list-style-type: none"> <li>Choose one goal that you would like to focus on for the next six weeks.</li> </ul>
3 Concrete goals	Importance concrete goals with endpoint goal should be accessible and measurable.	<ul style="list-style-type: none"> <li>Set your goals in concrete terms with endpoints.</li> <li>Use an approach framework for your goals.</li> <li>Break your goal into sub-goals.</li> </ul>
4 Mental/ physical power	Importance of positive Self talking for reaching goals.	<ul style="list-style-type: none"> <li>Keep a record of self-talk.</li> <li>Start to change negative self-talk.</li> <li>Redefine the situation in terms of your abilities.</li> </ul>
5 Diagramming the goal	We should define steps of reaching goals by virtualization of sub goals (Way power strategies).	<ul style="list-style-type: none"> <li>Create a diagram of goal.</li> <li>Take an inventory of the skills that you will need to use your pathway.</li> <li>Spend some time every day visualizing yourself completing the steps to your goal and your ultimate goal attainment.</li> </ul>
6 Physical Willpower	Healthy eating and exercise habits increase physical willpower.	<ul style="list-style-type: none"> <li>Evaluating your eating and exercise habits.</li> <li>Re-evaluate your goals and make sure that these goal pursuits are still important to you at this time.</li> </ul>
7 Obstacles	Introduction of goal blockages or goal obstacles	<ul style="list-style-type: none"> <li>Working on obstacles</li> <li>Progress Report on Your Chosen Goal.</li> </ul>
8 Lapse and relapse	How to avoid turning lapses into relapses?	<ul style="list-style-type: none"> <li>Assessment</li> <li>Hand out referral sheets to all members</li> <li>Announcement about Follow up meeting for 2 months later</li> </ul>

goals [5]. Given all the above mentioned facts, this group is a good sample for Hope Therapy interventions.

## Materials and Methods

### Society

The sample consisted of mothers with education level of above junior high school whose children suffered from cancer and referred to Aliasghar Children's Hospital at Tehran during autumn of 2010.

### Instruments

**Beck's Depression Inventory:** This test consists of 21 items related to depression. From a clinical view, scores of depressed individuals and normal unadjusted individuals are between 12 to 40 [6]. This test has an average correlation with other similar scales. These scales consist of Hamilton Rating Scale (0.71), Beck's Hopelessness Scale (0.68) and Stress-Anxiety-Depression Scale (0.88) [7].

**Snyder Hope Scale:** Snyder's Hope Scale (1991) - consists of 12 items which has been designed for individuals over 15 years of age. It consists of two subscales: Agency thinking and Pathway thinking. In a research by Golzari [8], the reliability of Snyder's Scale was measured via internal consistency method, and its estimated Cronbach Alpha ( $\alpha$ ) was 0.89.

Snyder's Hope Scale has a high correlation with other identical scales which measure the same psychological procedures. For example, correlation coefficient of Hope scale score with Scheier and Carver's [9] optimism scale is about 0.50–0.60. Moreover, scores of this scale has a negative relation with Beck's Depression inventory (-0.42--0.51). Validity of this scale has been measured and confirmed via content validity method.

### Screening Method

At first, a form consisting of mothers' personal information, child's illness information, and research instruments was given to the mothers. After studying the gathered information, and based on the pre-determined criteria (child who recently finished chemotherapy treatment), 20 mothers whose depression score was higher than 19 in Beck's Depression Inventory and their Hope score was less than 20 in Snyder Scale were selected. Later on, they were randomly assigned into two matched control and experimental groups (each with 10 members).

### Interventions

Mothers in experimental group received 8 weeks of intervention based on Hope Therapy Protocol (Table 1).

**Table 2.** Descriptive data of mothers and children suffering from cancer among test and control groups

Descriptive analysis		Statistical measures			
		Test	Control	Total	
Mothers' age	Mean	34.4	32.3	33.35	
	Standard Deviation	4.14	6.33	5.31	
	N	10	10	20	
Mothers' education	Undergraduate	N	2	6	8
	Diploma	N	6	4	10
	Bachelor	N	2	0	2
Children's age	Mean	7.2	5.1	6.15	
	Standard Deviation	3.46	4.48	4.04	
	N	10	10	20	
Children's sex	Male	N	6	5	11
	Female	N	4	5	9
Children's relapse	Yes	N	6	7	13
	No	N	4	3	7

**Table 3.** Analysis of covariance for the efficacy of Hope Therapy based on hope

Change Source	Ss	df	Ms	F	Sig	Effect Size
Pre-test effect	17.12	1	17.12	5.13	0.037	0.232
Between groups	58.05	1	58.05	17.41	0.001	0.506
Error	56.68	17	3.33			
Total	162	19				

Ss: Sum of Squares, df: Degree of freedom, Ms: Mean Square, Sig: Level of significance

Each session consisted of four sections. At the first section, they discussed their activities and weekly assignments for 30 minutes. At the second section, psychological education was provided for 30 minutes. At this section and each week, participants learned a new skill related to hope. These skills are part of three areas: Goals, Agency thinking, and Pathway thinking. At the third section, which lasted for about 50 minutes, techniques of incorporating the learned skills in daily life were discussed. At the last 10 minutes of each session, assignments for the next session were introduced. These assignments were supposed to help the mothers incorporate the new skills in their daily lives.

Afterwards, post-test was performed for both groups. In order to examine the extent of consistency of interventions, the experimental group was asked to complete the questionnaires and the follow up phase after eight weeks.

**Analysis**

To analyse the data, descriptive statistics (frequency distribution tables, percentile frequency, mean, standard deviation, diagram and histogram), and inferential statistics (covariance analysis and dependant t-test), were used by SPSS software.

**Results**

**Descriptive Statistics**

This section described the main features of the studied population. Table 2 demonstrates the distribution of age and education of mothers among the experimental and control groups and distribution

of age, sex and relapse of children suffering from cancer among the two groups.

**Inferential Statistics**

In order to study the effects of Hope Therapy based psychological interventions, analysis of covariance was used [10]. There are four assumptions that underlie the use of analysis of covariance and affect interpretation of the results: Randomness and Independent Sampling, Normality, Homogeneity of Variances, and Homogeneity of Regression Slopes.

**Analysis of Covariance for the Efficacy of Hope Therapy Based on Hope**

Based on normality test (Kolmogorov–Smirnov test) Z was bigger than 0.05 for both groups. Therefore, distribution of data was normal. Analysis of homogeneity of variances showed that  $F=1.564$  ( $p>0.277$ ), meaning that the difference between variances was not meaningful. Analysis of homogeneity of regression slopes showed that  $F=2.900$  and  $p>0.108$ , which means there was a homogeneity of regression slopes. Analysis of covariance for the efficacy of Hope Therapy based on hope is presented in table 3.

The estimated F for the difference between groups was 17.41, and degrees of freedom were 1 and 17, which were not significant ( $p>0.001$ ). Therefore, it can be stated that the observed increase in hope scores are significant, meaning that Hope Therapy is effective in increasing hopes of mothers whose children suffer from cancer.

**Table 4.** Analysis of covariance for the efficacy of Hope therapy based on Depression

Change Source	Ss	df	Ms	F	Sig	Effect Size
Pre-test effect	168.22	1	168.22	12.94	0.002	0.432
Between groups	448.43	1	448.43	34.5	0.009	0.67
Error	220.98	17	13			
Total	1109.2	19				

Ss: Sum of Squares, df: Degree of freedom, Ms: Mean square, Sig: Level of significance

**Table 5.** Results of follow up for Snyder's Hope Scale

Hope Score	mean	Sd	t	df	Sig
Post Test	21.10	2.331	1.677	9	0.128
Follow Up	22.10	1.853			

Sd: Standard deviation, t: t-test, df: Degree of freedom, Sig:Level of significance

**Table 6.** Results of follow up for Beck's Depression

Hope Score	mean	Sd	t	df	Sig
Post Test	17.20	4.237	2.400	9	0.040
Follow Up	15.00	4.397			

Sd: Standard deviation, t: t-test, df: Degree of freedom, Sig: Level of significance

### Analysis of Covariance for the Efficacy of Hope Therapy Based on Depression

Based on normality test (Kolmogorov–Smirnov test),  $Z$  was bigger than 0.05 for both test and control groups. Therefore, distribution of data was normal. Analysis of homogeneity of variances shows that  $F=1.026$  ( $p>0.324$ ), which means that the difference between variances was not meaningful. Analysis of Homogeneity of Regression slopes shows that  $F=0.543$  and  $p>0.472$ , which means there is homogeneity of regression slopes. Analysis of covariance for the efficacy of Hope Therapy based on depression is demonstrated in table 4.

As it can be seen in table 4, the estimated  $F$  for the difference between groups was 34.5, and degrees of freedom were 1 and 17, which were significant ( $p<0.009$ ). As a result, it can be concluded that Hope Therapy decreases depression of mothers whose children suffer from cancer.

In order to measure consistency of interventions,  $t$ -test for dependant groups was used. A short summary of the results is presented in table 5 and table 6.

As it can be seen in Table 5, the estimated  $t$ -score (1.677), with the estimated  $df$  (9) was not significant ( $p>0.128$ ), meaning no significant difference was found between post-test and follow up scores of hope which can be indicative of any decrease in hope. Looking closely to hope scores, it can be understood that hope scores were increased in the follow up studies.

As it can be seen in Table 6, the estimated  $t$ -score (2.4), with the estimated  $df$  (9) was significant ( $p<0.040$ ). Since the significant change was in line with decrease in depression, it can be stated that Hope Therapy increases hope and decreases depression in mothers of children with cancer, and this decrease persisted in the two months after post-test.

### Discussion

Findings of this study are in line with other studies; namely, Arnau [11]- Longitudinal Effects of Hope on Depression and Anxiety; Randolph [12]- The Prospective Effects of Hope on Depression and Anxiety, using a longitudinal design; Kylma [13]- Hope in Parents of Adolescents with Cancer: Factors Endangering and Engendering Parental Hope; Hankins [14]- Measuring the Efficacy of the Snyder Hope Theory as an Intervention with an Inpatient Population; Taylor (2000)- Confronting Breast Cancer; Irving et al. [15]- Hope and the Effectiveness of a Pre-therapy Orientation Group from Community Mental Health Center Clients.

The findings are in line with the findings of local and national researchers' findings as well: Abdi [16]- The Efficacy of Promoter Interventions of Hope in Patients Suffering from Cancer; Bijari [17]- The Effects of Group Hope Therapy on Increasing Hope and Decreasing Depression in Women with Breast Cancer. All these studies have affirmed that Hope Therapy can increase Hope.

Since other studies have not reported any follow up study, the result of this study cannot be compared and evaluated with that of others. In description and explanation of efficacy and persistency of Hope Therapy on increasing hope and decreasing depression in mothers of children suffering from cancer, the following items have been effective:

Encouraging participants to express their life stories is an important foundation of Hope Therapy. Stories provide a good opportunity for therapists to highlight hopeful perspectives, especially those which may fade because of other memories or thoughts [18].

Determining tangible and measurable goals and minimizing the scope of big goals into smaller and achievable steps are the most important characteristics of hopeful people [19]. Mothers started this stage by selecting small and logical goals which could be achieved within two months.

Two of the main important techniques of Cognitive Behavioural Therapy are self-monitoring and modification of cognitive distortion, which are both used in Hope Therapy. With respect to self-monitoring, mothers could be more aware about their thoughts and behaviours by the feedbacks they receive from their therapist and other group members. Regarding modification of cognitive distortions, catastrophizing and disqualifying the positive were discussed [20]. Therefore, mothers understood that some of their daily thoughts such as "Children suffering from cancer are condemned to death" are merely a cognitive distortion and not a reality.

Concentrating on the procedures of hopeful thoughts, Hope Therapy can cause better use of problem solving abilities and eventually resolve depressive signs. As a result, group members use more problem solving skills than avoidant behaviors while facing their challenges.

### Conclusion

Hope Therapy uses positive psychology instead of focusing on disabilities. Positive self-talking, hopeful imagination, healthy diet, sport and connection with supportive networks are some characteristics of

hopeful individuals which were focused on in this study.

Covariance analysis indicated that Hope Therapy significantly decreases depression and increases hope of mothers whose children suffer from cancer. Follow up results showed no significant changes in hope of this group of mothers in the two months after post-test, but depression was decreased significantly during this period. It was concluded that effectiveness of Hope Therapy may be continued during the follow up phase.

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### Conflict of Interest

The authors have no conflict of interest in this article.

### Authors' Contribution

This paper is written based on a thesis research (MA) of Ghazaleh Shekarabi Ahari. All the other authors have supervised this research.

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