

## RESEARCH ARTICLE

# Effects of a Self-Encouragement Program on Stress of Mothers of Children with Cancer Referred to Imam Ali Hospital, Zahedan, In 2015

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## Abstract

**Introduction:** In addition to the physical problems for the patients themselves, cancer can cause several social and psychological problems to the family, especially the mother in pediatric cases. This study aimed to investigate the effects of a self-encouragement program on stress of mothers of children with cancer referred to Imam Ali Hospital of Zahedan in 2015. **Materials and Methods:** This case-control study was performed on 44 mothers with children suffering from cancer, referred to the hospital during October and November of 2015. Convenience sampling was used, and the mothers were randomly allocated into two 22-member groups. The Impact of Event Scale – Revised (IES-R) was the data collection instrument. Educational classes were held in the hospital. Confidentiality and mutual respect were observed by each and every member of the group. Data obtained before and after the intervention were analyzed using the independent t-test, paired t-test and ANOVA. The significance level was set at 0.05. **Findings:** The most frequent diseases were acute lymphoblastic leukemia (47%) and brain tumors (16%). The results indicated that the mean score of stress in the control group did not significantly between the two time points ( $P=0.106$ ). In the intervention group, however, there was a significant difference in stress mean scores before ( $54.3\pm 2.0$ ) and after ( $37.1\pm 1.8$ ) the intervention ( $P<0.001$ ). **Conclusion:** Self-encouragement can help mothers dealing with a diseased child to feel less stressed. Therefore, they may be able to act more effectively when faced with problems.

**Keywords:** Stress-self-encouragement- cancer- children- mothers

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## Introduction

Cancer is the second major cause of death among Iranian children of below 14 years of age (LotfiKashani, 2012). It is on the rise across developing countries such that an annual total of 165 children per one million below 14 are afflicted by cancer on a yearly basis (Lotfi Kashani, 2012). This disease is a major health threat (Rambod M, 2012) and can cause functional impairment in the inflicted person as well as several social and psychological problems to the family. It burdens the family with severe psychological distress/stress because the mere diagnosis of cancer in the child can be traumatic on the whole family (Distefano et al., 2008; Cernvall et al., 2013; HosseiniGhomi T, 2013).

Diagnosis of cancer can affect the whole family especially the mother, and contribute to the parents' stress, anxiety, sense of guiltiness, helplessness and inability (Modanloo Sh, 2015). The reaction of the mother to her child's cancer is infused with a complicated shock and trauma. The fear of losing her child is more than difficult to her, making cancer one of the most distressing events (Eiser, 2006; Hosseini Ghomi T, 2013). In a study on parents' reactions and needs following cancer diagnosis

of their children, Sloper found that 55% of the mothers and 41% of the fathers experience severe distress/stress (Sloper, 2000). Shamsi et al found that mothers undergo distress/stress 2.49 times more than the fathers (Rambod M, 2012).

In the face of cancer diagnosis, people show different reactions and may apply different strategies (Sartorri, 2010). A proper strategy to enhance mental health is self-encouragement. According to Adler's theory, self-encouragement is a basic psychological need. Self-encouragement is the whole thing an individual does (a counselor) to instill another person with better feelings and more useful performance such that s/he can more confidently and enthusiastically participate in improving health in individuals and the society (Bahlmann R, 2001). Adler introduces self-encouragement as a human need. Emphasizing the role of self-encouragement in care provision, he maintains that one should not distance from self-encouragement in any stage of treatment (Bahlmann R, 2001).

The self-encouragement education program is a basis for many growth processes and an element inductive to problem-solving. Self-encouragement can help people feel satisfied even in the face of problems, act effectively

in life, and find more smart solutions to problems. In addition, it can enhance the morale, increase hope, and assure and infuse courage and confidence in people (F, 2011). Mothers of children with cancer experience a lot of stress and anxiety because they believe they will lose their child. Therefore, self-encouragement and its education can be effective in reducing stress and increasing mental health. As far as the literature shows, there is no research to have studied the effects of self-encouragement education on mothers of children with cancer notwithstanding the fact that these mothers require self-encouragement education in order to have enhanced morale and, hence, provide perfect support to their children.

As self-encouragement is a strong predictor of hope and mental health and can help better resist against the physical and psychological crises following the diagnosis and treatment of cancer, this study aimed to investigate the effects of a self-encouragement program on stress of mothers with cancer children referring to Imam Ali Hospital of Zahedan in 2015.

## Materials and Methods

This case-control study was performed on 44 mothers with cancer children referring to Imam Ali Hospital of Zahedan during October and November of 2015. Mothers allocated randomly into two 22-member groups. The initial sampling was by convenience sampling method. Upon obtaining the required permission from the hospital manager, the researchers held a 45-minute session with the mothers about the educational program. Those who provided written consent were included in the study and assigned to either the control or intervention groups. The inclusion criteria were mothers who had children with cancer as approved by pathologist; age of child with cancer below 20 years; enough mastery over the Persian language; and physical and mental health. During the program, the members observed confidentiality and mutual respect. The exclusion criteria involved mothers whose child was cured and dismissed before the completion of the program; mothers whose children were in end-stage of cancer; and mothers who were unwilling to continue the study.

The intervention group went through the self-encouragement program, while the control group received no treatment. The program was held in 10 sessions twice a week with each session lasting 1.5

hours (Hojjat, Abolghasemi, Fallahi and Babaei, 2012). The protocol of the program is summarized in Table 1. All the participants were assessed using the Impact of Event Scale – Revised (IES-R) designed by Weiss and Marmar (Weiss DS, 1997). Stress was measured by this scale, which holds 22 items on a 5-point Likert scale (0=Never; 1=fairly; 2=moderately; 4=often; and 5=always). It also has the three sub-scales of intrusion, avoidance, and hyper-arousal. The scale can evaluate the psychological symptoms of a traumatic event one week after its occurrence. According to Creamer et al (Creamer et al., 2003) concerning IES-R, the cutting point of 33 is the best criterion for studying stress symptoms, where those with a score of below 33 have no symptoms of stress. Weiss and Marmar have reported an acceptable reliability and validity for this scale (Weiss DS, 1997). The scale has been used in previous studies on parents of children with cancer where its reliability has been assessed. In Shamsi et al’s study, the validity of the scale was studied after its translation into Persian by backward forward method. Then 10 faculty member of Kerman University of Medical Sciences review the scale and score in the 3 point likert form to calculate CVI index; it showed a validity of 0.97 and a reliability of 0.90 using Chronbach’s alpha. The reliability scores for the sub-scales of intrusion, avoidance, and hyper-arousal were 0.80, 0.79, and 0.73 respectively (Rambod M, 2012). The descriptive findings of the current study are presented in terms of mean (Standard Deviation), frequency values and percentiles. The data were analyzed in SPSS (version 22). Normality and homogeneity of variances checked by Kolmogorov-Smirnov and Levene’s tests. Hypothesis were tested by using independent t-test, paired t-test and one way ANOVA. The significant level was set at 0.05.

## Results

In terms of educational level, 10 (22.7%) persons out of the 44 participants had high school diploma, 4 (9.1%) were associates, 5 (11.4%) bachelors, 1 (2.3%) had master’s degree, and the remaining had degrees below high school diploma. According to the participants, 40 (90.9%) had religious tendencies. The most frequent type of cancer was blood cancer with a rate of 27.3%.

According to Table 2, independent samples t-test shows that there was no significant difference between the

Table 1. Self-Encouragement Education Protocol

Session	Intervention
Session 1	Administration of the pre-test, introduction of the concept of self-encouragement, and education of encouraging behaviors and traits
Session 2	Principles of behavior, meaning that any human behavior has a purpose; target-orientedness and subjectivism such that stress is a subjective phenomenon
Session 3	Recognition of stress and its effects on feelings and mental health
Session 4	Education of self-encouraging words
Sessions 5 and 6	Affectionate thinking and encouragement, including 1. Acceptance, 2. Depiction of belief, 3. Increased focus on positive points in favor of elimination of negative points, and 4. Positive expectations
Session 7	Vacant chair exercise so individuals can speak out aloud whatever they wish in an encouraging manner
Sessions 8 and 9	A review of the previous sessions and concluding remarks
Session 10	Administration of the post-test

Table 2. Scores of Stress in the Control and Intervention Groups

Variable	Group	Control		Intervention		Variance Homogeneous test		Mean comparison test	
		Mean	Standard Deviation	Mean	Standard Deviation	Fisher Exact Test	P	Student t-test	P
Stress	Before intervention	48.0	3.2	54.3	2.0	4.0	0.051	1.7	0.101
	After intervention	46.6	2.7	37.1	1.8	3.0	0.09	-2.9	0.005
Paired sample t-test		1.7		6.9		---		---	
		0.106		<0.001					

Table 3. Stress Mean Scores before Intervention in the Control and Intervention Groups

Variable	Group	Control		Intervention		Variance Homogeneous test		Mean comparison test	
		Mean	Standard deviation	Mean	Standard deviation	F	P	T	P
Education level	Illiterate	56.3	3.7	55.4	4.5	0.7	0.42	-0.14	0.891
	Primary school	59.5	8.1	51.5	5.6	3.4	0.115	-0.81	0.447
	Secondary school	39.8	5.7	52.3	5.2	1.3	0.293	1.46	0.194
	High school	43.1	5.7	63.5	18.5	0.8	0.386	1.46	0.182
	Associate	53	---	54.7	2.7	--	--	0.3	0.789
	Bachelor's	52	---	52.7	1.1	--	--	0.3	0.782
	Master's	--	--	53.0	--	--	--	--	--
ANOVA	F	0.342		1.25					
	P-value	0.904		0.331					

intervention and control groups before the intervention (P=0.101). However, paired samples t-test shows that stress mean scores differed significantly after the treatment in the intervention group (P=0.005). After the intervention, stress mean score of the intervention group (37.1±2.6) was less than that of the control group

(46.6±2.6). While stress mean score of the controls showed no significant difference before and after the intervention (P=0.106), Independent t-test shows that there was a significant difference in stress mean score of the intervention group from the pre-test (54.3±2.0) to the post-test (37.1±2.6) (P=0.001). This suggests the

Table 4. Stress Mean Scores after Intervention in the Control and Intervention Groups

Variable	Group	Control		Intervention		Variance Homogeneous test		Mean comparison test	
		Mean	Standard deviation	Mean	Standard deviation	F	P	T	P
Education level	Illiterate	51	4.8	39.8	6.7	0.7	0.42	-0.14	0.891
	Primary school	56.2	7.4	32.0	2.6	3.4	0.115	-0.81	0.447
	Secondary school	40.0	4.9	36.3	5.4	1.3	0.293	1.46	0.194
	High school	44.2	4.8	34.5	0.5	0.8	0.386	1.46	0.182
	Associate	43.0	---	42.7	3.7	--	--	0.3	0.789
	Bachelor's	51.0	---	35.7	1.3	--	--	0.3	0.782
	Master's	--	--	40.0	--	--	--	--	--
ANOVA	F	0.905		0.506					
	P-value	0.502		0.794					

effectiveness of self-encouragement program in reducing the stress of mothers with children suffering from cancer.

One-way anova test shows that there was no significant relationship between stress mean scores of the groups (in pre- and post-test), education level, and religiousness (Table 3&4). In addition, there was no significant association between mothers' stress and type of cancer before and after the intervention in both groups.

## Discussion

A large number of the population in Iran are Muslims and have nuclear and extended families. Emotions and relationship play a strong role among Iranian families, especially in occasions when a family member suffers from a disease (Rambod M, 2012).

The results of the current study showed that stress is at a high level in both groups (54.3 and 48 in the intervention and control groups, respectively). After all, the diagnosis of cancer can bring about a considerable stress and may lead to severe or chronic psychological reactions (Seitz et al., 2010). Stress mean score was high in mothers with children suffering from cancer ( $54.3 \pm 2.0$ ) indicating that cancer in a child can lead to heavy stress (Sloper, 2000; Kazak et al., 2004; Distefano et al., 2008; Rambod M, 2012).

This study suggest the effectiveness of the self-encouragement program on the stress of mothers with children suffering from cancer. It is because self-encouragement can activate psychological hardiness in people. In this regard, the findings of the current study is in line with those of Elkin et al's study (Elkin I, 2010). Self-encouragement can enhance psychological empowerment, which is considered as a personal characteristic that can reduce mental tension, enabling the individual to act properly and face challenges meaningfully and purposefully (Kobasa, 1979). Results from Bahlmann and Dinter (Bahlmann R, 2001) and Caspaner et al's (Caspaner L 2010) studies show that self-encouragement results in more useful performance on the part of the individual and help overcome problems more effectively and participate in enhancing health more enthusiastically. Saffarinia and Mehmannaavazan found that self-encouragement can improve self-efficacy and lead to increased assertive behavior and promoted self-perception (Safariniya and Mehmannaavazan, 2015). This is in some way in line with findings of the present study because increased self-encouragement can enhance psychological health and, in turn, contribute to self-efficacy and assertiveness whereupon the individual can act better in the face of life challenges (including the disease of a family member).

As it was mentioned already, the literature seems to lack a research performed on the effects of self-encouragement on mothers of children with cancer, notwithstanding the fact that these mothers are in need of self-encouragement education so that they can have high morale to provide full support to their children.

In this study, no significant association was found between stress mean scores of the two groups before and after the intervention and education level. This is

incompatible with the results from Payamani, Miri, and Jahani's study (Payamani F, 2011). This might be attributed to the fact that their study was performed on patients with multiple sclerosis, while the current study was conducted on patients with cancer. Despite the improvements in dealing with cancers in Iran, the taboo of cancer is major and unbroken where anybody would be infused with horror upon hearing its diagnosis. Results from the present study is also incompatible with those of Fotokian, Ghaffari and Keyhanian (Fotokian et al.).

The research on mothers of children with cancer have been conducted in Zahedan hence generalize the results to other communities should be cautious. Also, difficult access to samples was the limitations of this study.

Self-encouragement can help the person to feel less stressed. Therefore, s/he may have a more useful performance and act more effectively when faced with problems. Hence, s/he can be more compatible when dealing with a diseased child.

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### Conflict of interest statements

The authors have no conflicts of interest to declare for this study.

### Informed consent

Research involving human participants and those who provided written consent were included in the study and assigned to either the control or intervention groups

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