

Effectiveness of Self-Talk Technique and Positive Empathy on Deficient Attitudes, Hopelessness, and Suicidal Thoughts in Women with Breast Cancer

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ABSTRACT

Background: Problems stemming from individuals' reactions to the diagnosis and treatment of breast cancer have various effects on the different dimensions of individuals and families' lives such as deficient attitudes, hopelessness, and suicidal thoughts. The study aim was determining the effectiveness of self-talk technique and positive empathy in reducing symptoms and modifying deficient attitudes, hopelessness, and suicidal thoughts in women with breast cancer in Tehran.

Methods: The present study was semi-experimental with a pre-test post-test design along with a control group in Tehran from 2014 to 2015. The statistical population consisted of 20 women with breast cancer who were randomly divided into two groups: experiment group (10 individuals) and control group (10 individuals). The experiment group received 12 sessions (each session=90 minutes) with educational structures of self-talk and positive empathy techniques. Data collection tools included Wizeman and Beck's deficient Attitudes Scales, Beck's Hopelessness, and Beck's Suicidal Thoughts Measurement. Data were obtained using SPSS19 software in two sections: descriptive and inferential (variance analysis with repeated measurement and Post Hoc test LSD).

Results: The interactive effect of test time and group of each dependent variable was significant. The mean difference between pre-test and post-test in measuring all three dependent variables was significant. On the other hand, the mean difference between post-test and control test was not significant in any of the dependent variables. However, the mean difference between pre-test and control test was significant in all three variables.

Conclusion: Teaching self-talk and positive empathy techniques had positive effects on reducing deficient attitudes, hopelessness, and suicidal thoughts. In addition, results proved the sustainability of intervention effects on the size of dependent variables.

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► *Implication for health policy/practice/research/medical education:* Self-Talk Technique and Positive Empathy

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1. Introduction:

Cancer is one of the most common problems in societies (1, 2); not controlling and treating it can lead to death (3). In fact, cancer is one of the main causes of death. Scholars consider cancer to be one of the three main causes of death (4).

Breast cancer is the third most common cancer in the world (5); the most common cancer among women (6, 7); and the second cause of death in women (8). In Iran, breast cancer is the most common type of cancer in women (9).

Problems resulting from individuals' reactions to the diagnosis and treatment of breast cancer can have various effects on the different dimensions of the individuals and families' lives (10). The physical status of most patients' changes due to hair loss and losing body organs (11). In addition, this disease damages patients' sexual abilities and self-esteem (12), harming their body image (13). Additionally, it causes psychological problems such as anxiety, depression, and stress after injuries, sadness, anger, and feeling of exclusion (14).

Many evidences have shown that chronic diseases are associated with deficient attitudes, hopelessness, suicidal thoughts, and self-harm factors (15). Based on data obtained from a study on a group of patients with chronic diseases, 25 percent of the studied sample reported suicidal thoughts, and 5 percent reported suicidal plans (16). Another study reported the spread of suicidal thoughts to be from 5 to 24 percent, and it reported suicidal thoughts to be from 5 to 50 percent (17). Other research showed that 30 percent of those who seek to treat chronic

diseases somehow report suicidal thoughts (18). In another research conducted in order to examine suicidal thoughts in Iran's patients with chronic diseases, mean of suicidal thoughts in patients was reported to be almost twice as great as a mean of suicidal thoughts in the society (19).

Suicidal thoughts are usually seen in patients who are intellectually involved in concepts related to suicide, death, and being worthlessness of life, while they have not taken serious measures to kill themselves. Evaluating suicidal thoughts and their consequent behaviors is a field which is vital to all clinical experts; and not focusing on these thoughts can lead to many dangers and serious consequences (20). Inefficiency of thoughts, feeling valueless, and hopelessness are causes of suicide in depressed patients (21).

Hopelessness seems to be the main suicide factor (22). Being hopeless about the future, self-complaints, negative self-awareness, and negative attitudes and emotions are a set of thoughts and attitudes which lead individuals to suicide; and in fact, suicidal behavior is a reaction to stressful situations with three features: failure, being unable to flee, and being unable to survive. Hopeless individuals constantly misinterpret their experiences, and consequently their confidence considerably decreases when trying to adapt to problems (22); hence, these individuals consider suicide as advancement or growth (24).

Breast cancer and Como therapy as treatment measure can significantly affect patients' life quality, leading to loss of physical, mental, social, and spiritual welfare (25), anxiety and depression, hopelessness and insensible attitudes in patients (8). Heravi Karimovi et al. (26) stated that the likelihood of depression in patients with breast cancer is twice as high as the likelihood of depression in the public. However, some believe that depression is a

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natural reaction to cancer in patients (27); but we cannot forget about the fact that high treatment costs, mental pressures, hopelessness, insensible attitudes, suicidal thoughts, lack of physical, social, and emotional functions, disorders in sexual functions, changes in mind images, diagnosis and treatment of breast cancer, happiness, and life quality in patients will be affected (28).

A strategy which has been proved to be effective in reducing psychological disorders, increasing hope, reducing deficient attitudes, and suicidal thoughts in patients with breast cancer include cognitive treatment methods such as self-talk techniques and positive empathy (29, 30). In line with this, self-talk (self-statement, automatic thoughts, internal talk) plays an important role in the relationship between incidents and emotions. Self-talk can be defined as a cognitive product within which talks are reflected as thoughts and beliefs about a person, the world, and relationships with others. Self-talk is defined as internal talk, which might be expressed loudly, slowly, or voiceless; through self-talk, individuals interpret their emotions and thoughts, change evaluations and beliefs, teach themselves, or reinforce themselves (31).

Cognitive therapy theories very much emphasize the relationship between what people say to themselves and their behaviors (32). Therefore, we must pay attention to the contents of coping-based self-talks that people use in stressful and emotional situations. Positive self-talk has a positive relationship with strong performance and self-efficacy (33), and it has a negative relationship with anxiety and depression (34); while negative self-talk has a relationship with psychological incompatibility (31), anxiety, depression, and negative emotions. Generally, studies show that positive and negative self-talk are two independent dimensions rather than a bipolar continuum (36). On the other hand, studies show that frequency of negative thoughts and frequency of positive thoughts are both related to mental pathology, while

they might be related to the different dimensions of incompatibility (37).

Another medical strategy which is used in order to reduce psychological problems in patients with chronic diseases is "mind visualization" or "positive empathy" (38). Visualization is a creative imaging technique which is implemented using conscious empathies (positive and direct) through sentences. In this method, we can communicate with our subconscious mind; hence, we can ask our body to act in a helpful and healthful way (39). In addition, mind visualization is referred to as a process which enables individuals to form special conditions by modifying time internal representations with no visual stimulus; this process is called "seeing with the eyes of the mind" (40).

Empathy is a communications process within which a person changes their judgments, beliefs, feedbacks, or even behavioral patterns due to another person, not noticing the fact that bases of thoughts and beliefs are in an external direct act or external wills (41). Empathy is a conditional stimulus, i.e. a stimulus which helps to remember faces or shapes, being a reflection which produces emotions, forcing individuals to take actions. Suggestibility is individuals' talent in accepting empathy. In other words, it is a state which causes individuals to do things without having personal motivations or reverse motives (42). Fekri *et al* (43) showed that personal navigated mind visualizations affect anxiety level and life expectancy in women with breast cancer. Darvishi (44) and some of researchers concluded that mind visualization and relaxation affect anxiety, depression, hopefulness, and tension and pain reduction in women with breast cancer (45-48).

As mentioned, numerous studies have focused on the effectiveness of each positive cognitive treatment in reducing psychological-pathological dimensions in cancer patients. However, examination of the effects of these two methods (self-talk technique and positive empathy) has not received much attention. In addition, considering the extensive spread of breast

cancer in women and the importance of hopefulness, and reduction of insensible attitudes and suicidal thoughts in treatments and controls, it is necessary to reduce the effect of disorders. This study was designed in order to examine the effect of self-talk technique and positive empathy on reducing symptoms and modifying deficient attitudes, hopelessness, and suicidal thoughts in women with breast cancer.

2. Materials and Methods:

This research was semi-experimental with a pre-test post-test design, along with a control group. The statistical population of the present study consisted of all women with breast cancer visiting Imam Khomeini hospital in Tehran from 2014 to 2015. From the population, 20 cancer women were selected using convenience sampling. They had the same age, disease, treatment period, and treatment method conditions. They were randomly divided into two groups: control group (ten members) and experiment group (ten members). The experiment group received 12 sessions of self-talk and positive empathy interventions (two 90-minute sessions a week) (table 1). However, the control group was put on a wait list. Criterion for exit included having no history of psychological treatments since diagnosis; and the entrance criterion included having minimum level of education, i.e. diploma; and maximum level of education, i.e. BA, and the ability to participate in group-training sessions. In order to collect data, three questionnaires were used.

Deficient attitudes scale (DAS): This scale was designed by Wizeman and Beck (1998), including 40 items used for identifying attitudes and beliefs which make individuals prone to depression. The score of each response ranges from 1 (I totally disagree) to 7 (I totally agree). Hence, the scores of respondents ranged from a minimum of 40 to a maximum of 280. Higher scores showed vulnerability. The coefficient of this scale was calculated through Cronbach's alpha to be from 0.94 to 0.94, which proves internal consistency to be sufficient. In our country, it was normalized with its reliability reported to be 0.85 (Wizeman and Beck, 1998).

Beck's hopelessness scale (BHS): This scale included 20 sentences, which was designed based on Beck's cognitive theory. Scores ranged from 0 to 20. Higher scores showed higher levels of hopelessness. Scores were given based on a true-false format. This scale examined six negative attitudes to future: feeling lonely, pessimism, having no plans for the future, expecting failure, and intellectual inconsistency. Internal consistency coefficient (Cronbach) was calculated to be 0.78 (Beck, 1974). Beck's Scale for Suicidal Ideation (BSSI): This scale is a self-assessment tool with 19 items which was provided in order to clarify and measure attitudes, behaviors, and suicide plans. The scale was set based on three point degrees ranging from 0 to 2. Total scores were calculated based on the sum of scores, ranging from 0 to 38. Beck's scale of suicidal thoughts had high reliability which was calculated to be 0.87 and 0.97 using Cronbach's alpha. In addition, the validity of the scale was calculated to be 0.54 using a test-retest method. Additionally, using a split-half method, it was calculated to be 0.75; and using Cronbach's alpha, it was calculated to be 0.95 (Beck, 1974).

Analysis of data obtained from questionnaires was done in descriptive and inferential sections (variance analysis with repeated measurement and Post Hoc test LAS) through SPSS 19 software.

3. Results:

Descriptive indexes associated with deficient attitudes, hopelessness, and suicidal thoughts in women with breast cancer have been given in table 2.

Before examining hypotheses, normality of data distribution was examined using skewness and elongation test. Findings showed that the distribution of research variable data is normal; therefore, variance analysis and repeated measurement were used.

In order to respond to the main research hypothesis, when examining the effect of self-talk and positive empathy on deficient attitudes, hopelessness, and suicidal thoughts in women with breast cancer, variance analysis was used in a repeated measurement

Table 1: Distribution of victims of suicidal poisoning in relation to age and Gender

Sessions	Title of sessions
Session 1	A) Educational speech: Welcoming/motivating, reviewing the structure of the sessions and main rules: rehearsal: getting to know each other; educational speech B) thoughts and emotions; educational speech C) teaching meditation techniques along with the music; rehearsal: meditation techniques along with the music; setting assignments for the next session
Session 2	Reviewing the assignments of the first session: educational speech; A) main dimensions of depression cognitive theories; rehearsing how to classify beliefs: educational speech. B) Anxiety, morbidly anger, identifying automatic thoughts; rehearsal: identifying probable resistance and preventing them; rehearsing meditation techniques along with the music; setting assignments for next session
Session 3	Reviewing the assignments of previous session; educational speech. A) Stating that cancer is not a constraint factor, and offering a sample of patients who have overcome cancer; educational speech. B) Injecting thoughts rehearsing how to inject thoughts; rehearsal: meditation techniques along with music; setting assignments for the next session
Session 4	Reviewing the assignments of previous session; educational speech. A) Teaching vertical arrow; rehearsal: vertical arrow; educational speech. B) All kinds of beliefs: rehearsal: classifying beliefs: rehearsal: meditation techniques along with the music: setting assignments for next sessions.
Session 5	Reviewing the assignments of previous session; educational speech. A) Providing the main list of beliefs: rehearsal: beginning the main list of beliefs. Educational speech. B) Cognitive plans: and providing a ranking of them: Rehearsing meditation techniques along with the music: setting assignments for the next session
Session 6	Reviewing the assignments of previous session; educational speech. A) Returning to the abilities before disease; rehearsal: stating activities which have been undone after diagnosis; educational speech. B) Hopefulness and examination of hope in treatment and future in group members, and giving examples of patients who have overcome cancer; rehearsing meditation techniques along with the music; setting assignments for the next session
Session 7	Reviewing the assignments of previous session; educational speech. A) We can change beliefs; rehearsal: providing a list of beliefs which have changed within history and in the lives of respondents; educational speech. B) Describing mind visualization, its effects and training: rehearsal: mind visualization: setting assignments for the next session.

Session 8	Reviewing the assignments of previous sessions: Educational speech. A) Logical analysis; rehearsal: logical analysis; educational speech. B) Continuing logical analysis; rehearsal: logical analysis: rehearsing mind visualization; setting assignments for next sessions.
Session 9	Reviewing the assignments of previous session; A) providing a hierarchy; rehearsal: providing at least one hierarchy; educational speech. B) Opposite belief; rehearsal: beginning to set up opposite beliefs; rehearsing mind visualization; setting assignments for the next session.
Session 10	Reviewing the assignments of previous session; educational speech; A) perceptual change; rehearsal: completing forms of perceptual change: Educational speech. B) Optional cortical inhibition; rehearsal: Optional cortical inhibition: Rehearsing mind visualization: Setting assignments for the next session.
Session 11	Reviewing the assignments of previous session; educational speech. A) Self-punishment and self-reward; rehearsal: self-punishment and self-reward; educational speech. B) Preservation methods; rehearsal: setting a preservation plan. Rehearsal: Mind visualization; Setting assignments for next session.
Session 12	Reviewing the assignments of previous session; Reviewing the plan; rehearsal: mind visualization; plans for controlling and evaluating after treatment; closing programs.

Table 2: Mean and standard deviation of deficient attitudes, hopelessness, and suicidal thoughts in studied groups

Variable	Experiment (n=10)			Control (n=10)		
	Pre-test mean	Post-test mean	Control mean	Pre-test mean	Post-test mean	Control mean
	(Standard deviation)	(Standard deviation)	(Standard deviation)	(Standard deviation)	(Standard deviation)	(Standard deviation)
Deficient attitudes	157.2 (9.65)	112.4 (4.55)	110.9 (4.75)	153.8 (9.33)	151.6 (5.35)	150.9 (4.87)
Hopelessness	16.5 (2.45)	10.3 (1.57)	10.5 (1.74)	15.9 (2.44)	15.5 (1.83)	15.2 (1.67)
Suicidal thoughts	27.6 (3.45)	16.1 (2.22)	15.8 (2.08)	26.7 (2.35)	25.9 (2.34)	25.6 (2.29)

format. Results have been incorporated in table 3. Based on the results presented in table 3, the interactive effect of test time and group of each dependent variable (deficient attitudes, hopelessness, and suicidal thoughts) has been significant ($p > 0.01$). In addition, the effect of group and the effect of test time separately on each dependent variable (deficient attitude, hopelessness,

and suicidal thoughts) have been significant ($p > 0.01$). Therefore, it can be said that teaching self-talk technique and positive empathy have considerably helped to reduce deficient attitudes, hopelessness, and suicidal thoughts.

In order to compare mean values of variables such as deficient attitudes, hopelessness, and suicidal thoughts in the experimental group,

Table 3: Results of variance analysis in a repeated measurement format in deficient attitudes, hopelessness, and suicidal thoughts in groups being studied

variable	group		Test time		Group and test time	
	F(1.38)	Eta	F(2.76)	Eta	F(2.76)	Eta
Deficient attitudes	*7.87	0.24	*29.94	0.59	*23.57	0.51
Hopelessness	*6.95	0.19	*21.79	0.48	*16.62	0.29
Suicidal thoughts	*5.65	0.14	*19.21	0.37	*14.37	0.22

*P<0.01

Table 4: Post Hoc test LSD for variables such as deficient attitudes, hopelessness, and suicidal thoughts in the experiment group

variable	Pre-test to post-test		Pre-test to control		Post-test to control	
	Mean difference	Standard error	Mean difference	Standard error	Mean difference	Standard error
Deficient attitudes	*5.2	1.08	*4.8	1.05	-0.17	0.37
Hopelessness	*2.3	0.28	*2.1	0.27	-0.7	0.67
Suicidal thoughts	*1.7	0.24	*1.9	0.29	0.007	0.09

*P<0.01

a Post Hoc test LSD was used in triple times (pre-test, post-test, and control test); results are given in table 4. According to the records given in table 4, mean difference between pre-test and post-test is significant in the measurement of all three dependent variables (deficient attitudes, hopelessness, and suicidal thoughts) ($p<0.01$). This significance is to the benefit of post-test. On the other hand, the mean difference between post-test and control test is not significant in any of the dependent variables ($p<0.05$). However, the mean difference between pre-test and control test is significant in all three variables ($p<0.01$). These results show the sustainability of the effect of teaching self-talk and positive empathy on the size of variables such as deficient attitudes, hopelessness, and suicidal thoughts.

4. Discussion:

There are many concerns in connection with suicides and increases in the number of

patients with chronic diseases. The presence of thoughts such as worthlessness in life, deficiency of thoughts, feeling of being worthless and being guilty, hopelessness, and the weak interaction with others cause a lot of stress in patients, leading to stronger suicidal desires.

The present study was aimed to examine the effect of self-talk technique and positive empathy on reduction of symptoms and modification of deficient attitudes, hopelessness, and suicidal thoughts in women with breast cancer. Different studies which have previously been mentioned have shown that teaching self-talk technique and positive empathy affects different mental variables and their treatment. Findings showed that teaching self-talk technique and positive empathy have a significant effect on reducing symptoms and modifying deficient attitudes, hopelessness, and suicidal thoughts in women with breast cancer in pre-test and control stages. The findings were in

congruence with the results of different studies (3, 8, 15, 27, 28, and 49). In cognitive treatments, we focus on understanding thoughts and emotions affecting patients' behaviors. Within a treatment course, individuals learn how to identify and change destructive thought patterns with negative effects on their behaviors, and how to control all aspects of their surroundings. The role of cognitive therapist is to help patients to fight these detective thoughts and behaviors, and to identify problematic beliefs. During cognitive treatment, patients begin to learn and experience new skills which can be later used in real conditions and situations. This is a step-by-step process which helps individuals to gradually change their behaviors. The interesting point in this research-based intervention is improvement in thinking status and beliefs of the experimental group, leading to satisfaction.

The comparison of mean values of deficient attitudes, hopelessness, and suicidal thoughts in the experimental group in pre-test, post-test, and control stages showed that the mean difference of pre-test and post-test is significant in measuring all three dependent variables (deficient attitudes, hopelessness, and suicidal thoughts). On the other hand, a mean difference of post-test and control test is not significant in any of the dependent variables. However, a mean difference of pre-test and control test is significant in all three dependent variables. These results referred to the sustainability of the effect of teaching self-talk technique and positive empathy on measuring variables such as deficient attitudes, hopelessness, and suicidal thoughts. In individuals who receive group self-talk and positive empathy lessons, efficient attitudes are replaced with deficient ones, leading to a considerable reduction in hopelessness and suicidal thoughts; their interactions with others improve; they accept life conditions more easily; and they become more resistant to stress, leading to more optimism.

In addition, when expressing obtained results, we can refer to different reasons: a general reason is attributed to the useful effects of group treatment compared to

individual treatment. Group treatment helps individuals to learn effective social skills; then they test their skills for other group members (50). They feel at ease when observing other people's problems which are similar or more intense than their own problems (51).

In connection with the effect of group psychotherapy in cancer patients, Alvarez (52) reported that because cancer patients suppress their disease-related emotions, they get away from their identity, and they do not allow new experiences to enter their lives and minds. As a result, pessimistic thoughts lead to fatigue, hopelessness, loneliness, and fear of death. Their participation in psychotherapy sessions, imaging death, and focusing on death-related emotions help individuals to look at life with novel outlooks. Results obtained from group treatment components were consistent with those of studies 46, 47, and 45.

Another reason why these results are obtained is the use of behavioral-cognitive methods such as self-talk and positive empathy, which have been used in this research; and their effectiveness in emotional disorders such as anxiety, depression, and increase in hope has been proven in previous studies (39, 44, 48).

5. Conclusion:

Finally, it is stated that although, according to research findings, the present approach is effective, it is necessary to use the present treatment method in single-respondent and experimental plans with bigger samples. In addition, the results of this research must be interpreted with care. Even though necessary measures have been taken in order to control conditions, control has always been a difficult process for human respondents and psychological treatments. Additionally, it is recommended that the present treatment method is done for those with metastatic breast cancer and other types of cancer. Using other group psychotherapy approaches for cancer patients can add to the richness of the literature of the present research.

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