

The Positive Role Of Structured Group Therapy On Post-Traumatic Growth Of Positive Psychological Components (PTG) In Women With Breast Cancer

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ABSTRACT

This study examined the effectiveness of a structured group therapy of Park and Seligman (Version 2) (2007) on the rate of post-traumatic growth of positive psychological variables in women with breast cancer who completed their courses of chemotherapy and radiotherapy. Totally, 11 cancer patients were examined in this study. Using a questionnaire, PTG, post-traumatic growth of positive psychological factors were measured before therapy sessions. Then, an 8-session structured group therapy was held for 8 weeks; at the end, PTGI was recompleted by members of the group. For data analysis, t-test was used to compare dependent and independent samples. Results indicate that positive treatment structured approach of Park and Seligman has a positive effect on increased participants' positive components (new possibilities, personal strength, appreciation of life and relationships with others), while it does not influence Spiritual changes. Two variables (Surgery and education) as moderating variables are effective on effectiveness of the treatment.

Key words: cancer, post-traumatic growth, positive group therapy, Parks and Seligman, positive components.

INTRODUCTION

Life-threatening diseases such as cancer are best known by DSM-IV as a stressor which can precipitate post-traumatic stress disorder. The main measures to inhibit cancer include preventive measures; so as research has proved, at least 40% of cancers can be prevented. Appropriate diagnostic measures is explained in the form of early diagnosis and appropriate treatment; so that, at least 40% of cancers can be completely cured. Supportive care of cancer patients is the last part of measures to cure cancer in psychological science ¹.

Trauma is an emotionally painful, disturbing and sudden experience often led to lasting physical and mental effects. Cancer can

cause trauma which challenges people. Coping with these challenges may lead to positive growth in their mental components; this is called 'PTG'. PTG is a component of positive changes characterized by a traumatic experience and a painful event, back to a higher level of functioning before the onset of trauma. PTG includes positive changes such as a greater understanding of life, shifting priorities in life, more heat in intimate relationships with others, greater sense of personal ability, recognizing new opportunities or ways of life and development of spiritual growth ². Diagnosis and treatment of breast cancer is an experience with stress and anxiety. Women in whom the disease is diagnosed early experience drug therapy and surgery with potential negative side effects, such as hair loss, nausea, lymph edema, and sexual problems. Long-term

treatment doubts the ability of women in establishing social role as housewives or employed and possible future return to work. High levels of stress have a long-term negative effect on women's self-esteem which has a very bad influence on family functioning, marital life, and low quality of life. About 10-30% of diagnosed patients experience clinical symptoms of post-traumatic Stress Disorder (PTSD). Given the devastating consequences of the disease and its effects on individuals and families, it is required to find psychological ways for these people to cope with the illness, psychological well-being and survival time considering the nature of the disease shifting from a fatal to chronic disease ³.

Research has shown that adequate protection of the patient plays an important role in maintaining mental integrity, consistency and coping with the cancer; in addition, it has positive effects on quality of life. By strengthening and increasing awareness, support causes people to experience less stress. Totally, it increases coping with illness, quality of life and survival time ⁴⁻⁵. Among the types of breast cancer, the most common type is in women. Cancer causes changes, stresses and different effects on the lives of cancer patients and their family. Cancer-related crises imbalance of body cause imbalanced body and soul. Another possible reaction is TG depression which is seen frequently in women with breast cancer ⁶.

The main goal of positive psychology is to understand mental health; this psychological dimension is classified into three subtypes including positive emotions, positive individual traits, and positive institutions and organizations ⁷.

Positive group therapy that is focused primarily by positive psychotherapy roots from Carl Rogers' theory. Seligman believes that, 'combining theoretic ideas of Carl Rogers and positive psychological research, we can provide an environment where people move to a happier and healthier life by minimizing stresses and facilitating abilities'. The scores of Tedeschi and Calhoun PTG inventory (21-item Form) are indicator of PTG ⁷. Another example of positive group therapy designed by Park and Seligman Consists of 8 1:30h sessions, held for 8 weeks for adults with

mild to moderate symptoms of depression. The group includes 10-12 clients and a group facilitator. Every session, Participants receive a worksheet containing a detailed description of practices of that week and a space for recording different aspects of their experience during exercise [3]. A complex interaction of factors related to Starting and maintaining PTSD includes post-traumatic, pre-traumatic and underlying variables ⁸. Personality variables, including neuroticism, introversion are generally associated with severe symptoms of PTSD. The growing empirical literature revealed that many survivors of trauma experience positive psychological changes after a traumatic event, Even as a direct result of trauma or as a kind of learning that happens through great efforts to cope with trauma ⁹.

Positive psychological changes include increased appreciation of life, creating new life priorities, increased sense of personal competence, a sense of deeper meaning, identifying new possibilities, improving intimate relationships and positive spiritual changes ¹⁰. Erik Fromm has stated that the pain and challenge that person tolerates when setting his basic concerns (freedom, isolation, death and the meaning of life), and the role they play in his life can lead to a better understanding of self, self-conscious and positive growth ¹¹. Many cancer survivors experience the positive changes when experiencing illness ¹². PTG dimensions include improved interpersonal relationships, appreciating life, spirituality, personal strength and positive changes in life priorities ¹³. The attraction of positive changes reported in breast cancer patients after diagnosis and treatment has expanded in recent years ¹⁴⁻¹⁶. Some researchers found that 53% of women with breast cancer reported positive changes in their lives since diagnosis ¹⁷. Sears and colleagues (2003) found that 83% of women with breast cancer reported positive interests in their experience ¹⁸.

Using Positive group therapy of Park and Seligman ³, the present study examined PTG in patients with cancers. Purpose of this study was to evaluate the positive effect of group therapy of Park and Seligman on growth of positive psychological components on women with breast cancer. Moreover, the effect of moderating variables such

as income, education, occupation, previous medical history, surgical history, education of spouses has been discussed.

Experiments

Methods

In this study, a pre-test and post-test quasi-experimental design was used. The scheme consists of a group of subjects measured twice.

Participants

Participants included all literate cancer patients in Zahedan, Iran. The patients completed cycles of chemotherapy and radiotherapy and were willing to participate in this positive psychological group therapy. Therefore, only 11 breast cancer patients were selected; maximum people which can participate in group therapy were also 12. Participants range in age from 26 to 72 years old (on average, 48.72).

Variables

Independent variable was 8-session positive group therapy of Park and Seligman with discussion about the practice of previous sessions in which people were supposed to participate actively. This corresponding therapy has been received by the researcher from the authors. Dependent variable was change in positive psychological factors (PTG) which was measured after and after the positive psychological group therapy. Control variables were gender and type of cancer. Therefore, all members of the sample were female with breast cancer.

Materials

Seligman personal strengths survey is used to measure strengths of adults including strengths (short form). The amount of strengths of a subject is based on age, geographic location, education, and occupation. There is the original 240-item form in Seligman web site on Persian. This survey is based on 5-point Likert scale completed in 25 minutes, but without time limit.

Munsch scale was used to measure. Short-term items ¹⁰ represent the casing (positive and negative), and the long-term items ¹⁴ represent the fitting dimensions (positive and negative). Each of Positive and negative casing aspects has 5 items

and each of positive and negative fitting aspects has 7 items. In Overall, the scale includes 24 items. The items are scored in a three-point scale (yes = 2), (No = 0), (I do not know = 1). Positive and negative casing aspects with 5 items will be scored from 0 to 10 and positive and negative fitting aspects with 7 items will be scored from 0 to 14. The total score of the scale is calculated by a formula with respect to the positive and negative casing and fitting aspects.

Reliability

Reliability of this test is reported as 0.70 by retest after 18 months. The internal consistency of the test was 0.71.

Data Collection

To gather information, first all literate people with breast cancer were collected; then, people who completed their chemotherapy and radiotherapy were separated. Totally, 11 patients were willing to participate in courses of positive psychology group therapy and attended in the sessions. In each session, worksheets of last week were collected from and worksheets of the next week were given to participants. Every week after exercise, the participants in group therapy had to complete Munsch Happiness scale and obtain the scores to measure the effect of exercise of that week. At the end of the sessions, participants were asked to complete PTGI. Positive psychology group therapy lasted for 2 months. The present study attempted to examine the effect of group therapy of Park and Seligman on increased PTG components in people with breast cancer. A pre-test and post-test quasi-experiment was used by convenient sample. T-test was used to compare scores of subjects in post-test and pre-test. To compare means, independent t-test was used.

RESULTS

The mean age of the subjects was 48.72 ranging from 26 to 72. Distribution of subjects in terms of employment shows that the samples included 54.5% employed and 45.5% housewives. Distribution of subjects in terms of previous disease shows that the samples included 63.6% without previous illness, and 36.4% with previous illness. Distribution of subjects in terms of surgery shows

that the samples included 18.2% without history of surgery and 81.2% with a history of surgery. Distribution of subjects in terms of revenue shows that the samples included 63.6% with one million or less and 36.4% with above one million Tomans revenue. Distribution of subjects in terms of education shows that the samples included 36.4% with diploma or higher. Results showed that spouses of patients were 63.6% with diploma and lower, 36.4% with diploma and higher. Some descriptive indices related to scores of the subjects were calculated before and after positive group therapy; the results are presented in table 1.

As Table 1 illustrates, there is a difference between pre-test and post-test scores of all components. To determine whether there is a significant difference between pre-test and post-test scores of all components, t-test was used to compare mean correlated samples. Results are presented in Table 2. According to Table 2, there was a significant difference in mean scores of the four components (new possibilities, personal strengths, appreciation of life, relationships with others) before and after therapy using a 95% confidence; only, there was no significant difference in the fifth component (spiritual growth).

In order to investigate whether revenue, education, occupation, previous medical history, surgery, education of spouse, have an effect on the effectiveness of the used methods, the mean difference between PTG variable before and after

implementation (pilot) was calculated and results were analyzed for mean differences in different components.

To examine whether revenue causes differences in the effectiveness of positive group therapy of Parks and Seligman on PTG, t-test was used to compare mean independent samples. The results are summarized in Table 3 and 4. As Table 3 shows, highest and lowest difference in observed pre-test and post-test means was related to appreciation of life and spiritual growth, respectively. As Table 4 shows, there is no significant difference between mean scores of pre-test and post-test in groups with revenues less and more than one million in a confidence level of 95% for the five components of PTG. That means revenue played no role on effectiveness of Park and Seligman's group therapy. To explain, the difference between mean scores before and after the implementation of Positive group therapy was significant at 90%.

To examine whether education causes differences in the effectiveness of positive group therapy of Parks and Seligman on PTG, t-test was used to compare mean independent samples. The results are summarized in Table 5 and 6.

As Table 5 shows, highest and lowest difference in observed pre-test and post-test means was related to appreciation of life and spiritual growth, respectively.

Table 1: Descriptive indices related to mean scores of subjects before (pre) and after (post) positive group therapy

		Mean	Distribution	Standard deviation	Mean standard error
Pair 1	New possibilities - pretest	14.3636	11	4.08100	1.23047
	New possibilities – posttest	19.5455	11	3.32757	1.00330
Pair 2	Personal Strengths pretest	20.8182	11	6.63051	1.99917
	Personal Strengths posttest	25.9091	11	4.98908	1.50426
Pair 3	Appreciation of life – pretest	12.9091	11	3.11302	.93861
	Appreciation of life - posttest	15.8182	11	2.56196	.77246
Pair 4	Relationship with others – pretest	9.3636	11	2.83805	.85571
	Relationship with others – posttest	12.4545	11	1.50756	.45455
Pair 5	Spiritual Growth – pretest	8.4545	11	.68755	.20730
	Spiritual Growth - posttest	8.7273	11	.90453	.27273

Table 2: t-test of correlated samples, comparison of means before and after positive group therapy

	Paired Differences					t	Degree of freedom	Sig. (2-tailed)
	Mean	Standard deviation	standard error	95% Confidence Interval of the Difference	Mean			
Pair 1	New possibilities – pretest	3.60051	1.08559	-7.60067	-2.76297	-4.773	10	.001
Pair 2	Personal Strengths pretest	3.88470	1.17128	-7.70069	-2.48113	-4.346	10	.001
Pair 3	Appreciation of life – pretest	4.10986	1.23917	-5.67013	-.14805	-2.348	10	.041
Pair 4	Relationship with others – pretest	3.11302	.93861	-5.18227	-.99955	-3.293	10	.008
Pair 5	Spiritual Growth – pretest	1.00905	.30424	-.95062	.40516	-.896	10	.391

Table 3: Descriptive indices of the mean scores for difference in pre-test and post-test on PTG components according to demographic variables, revenue

Revenue	N	Mean	Std. Deviation	Std. Error Mean
New possibilities – Difference	7	4.0000	3.55903	1.34519
Personal strengths - Difference	4	7.2500	2.98608	1.49304
Appreciation of life - Difference	7	3.5714	3.15474	1.19238
Relationship with others - Difference	4	7.7500	3.94757	1.97379
Spiritual growth - Difference	7	1.1429	2.54484	.96186
	4	6.0000	4.83046	2.41523
	7	2.2857	3.03942	1.14879
	4	4.5000	3.10913	1.55456
	7	.1429	1.21499	.45922

Table 4: t-test to compare mean scores of pre-test and post-test for different PTG components focusing on revenue

Revenue	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	Degree of freedom	Sig. (2-tailed)	Mean standard error	Std. Error Difference	95% Confidence Interval of the Difference
New possibilities - Difference	.065	.804	-1.535	9	.159	-3.25000	2.11781	-8.04082 1.54082
Personal strengths - Difference	.742	.411	-1.938	9	.085	-4.17857	2.15575	-9.05521 .69807
Appreciation of life - Difference	1.535	.247	-2.228	9	.053	-4.85714	2.17984	-9.78828 .07400
Relationship with others - Difference	.029	.869	-1.153	9	.278	-2.21429	1.91973	-6.55702 2.12845
Spiritual growth - Difference	.374	.556	-.544	9	.599	-.35714	.65595	-1.84101 1.12672

Table 5: Descriptive indices of the mean scores for difference in pre-test and post-test on PTG components according to demographic variables, education

	Education	Distribution	Mean	Standard deviation	Mean standard error
New possibilities - Difference	Diploma or lower	7	4.0000	3.55903	1.34519
	Higher than diploma	4	7.2500	2.98608	1.49304
Personal strengths - Difference	Diploma or lower	7	3.4286	3.15474	1.19238
	Higher than diploma	4	8.0000	3.55903	1.77951
Appreciation of life - Difference	Diploma or lower	7	1.0000	2.44949	.92582
	Higher than diploma	4	6.2500	4.57347	2.28674
Relationship with others - Difference	Diploma or lower	7	2.2857	3.03942	1.14879
	Higher than diploma	4	4.5000	3.10913	1.55456
Spiritual growth - Difference	Diploma or lower	7	.4286	.78680	.29738
	Higher than diploma	4	.0000	1.41421	.70711

Table 6: t-test to compare mean scores of pre-test and post-test for different PTG components focusing on education

Education	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	Degree of freedom	Sig. (2-tailed)	Mean standard error	Std. Error Difference	95% Confidence Interval of the Difference
New possibilities - Difference	.065	.804	-1.535	9	.159	-3.25000	2.11781	-8.04082 1.54082
Personal strengths - Difference	.408	.539	-2.213	9	.054	-4.57143	2.06526	-9.24338 .10052
Appreciation of life - Difference	1.720	.222	-2.529	9	.032	-5.25000	2.07618	-9.94664 -.55336
Relationship with others - Difference	.029	.869	-1.153	9	.278	-2.21429	1.91973	-6.55702 2.12845
Spiritual growth - Difference	1.115	.319	.658	9	.527	.42857	.65118	-1.04450 1.90164

Table 7: Descriptive indices of the mean scores for difference in pre-test and post-test on PTG components according to demographic variables, occupation

	Occupation	Distribution	Mean	Standard deviation	Mean standard error
New possibilities - Difference	Employed	6	5.1667	3.43026	1.40040
	housewife	5	5.2000	4.20714	1.88149
Personal strengths - Difference	Employed	6	5.1667	1.83485	.74907
	housewife	5	5.0000	5.78792	2.58844
Appreciation of life - Difference	Employed	6	2.1667	2.78687	1.13774
	housewife	5	3.8000	5.54076	2.47790
Relationship with others - Difference	Employed	6	3.6667	2.25093	.91894
	housewife	5	2.4000	4.09878	1.83303
Spiritual growth - Difference	Employed	6	.5000	.83666	.34157
	housewife	5	.0000	1.22474	.54772

Table 8: t-test to compare mean scores of pre-test and post-test for different PTG components focusing on occupation

Occupation	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	Degree of freedom	Sig. (2-tailed)	Mean standard error	Std. Error Difference	95% Confidence Interval of the Difference
New possibilities - Difference	.658	.438	.015	9	.989	-.03333	2.29812	-5.23204 5.16538
Personal strengths - Difference	12.077	.007	0.67	9	.948	.16667	2.47892	-5.44105 5.77438
Appreciation of life - Difference	1.287	.286	-.636	9	.540	-1.63333	2.56614	-7.43834 4.17167
Relationship with others - Difference	1.178	.306	.652	9	.530	1.26667	1.94162	-3.12558 5.65891
Spiritual growth - Difference	.120	.737	.804	9	.442	.50000	.62212	-.90734 1.90734

Table 9: Descriptive indices of the mean scores for difference in pre-test and post-test on PTG components according to demographic variables, previous illness

	Previous illness	Distribution	Mean	Standard deviation	Mean standard error
New possibilities - Difference	No	7	6.1429	3.62531	1.37024
	Yes	4	3.5000	3.31662	1.65831
Personal strengths - Difference	No	7	5.4286	3.73529	1.41181
	Yes	4	4.5000	4.65475	2.32737
Appreciation of life - Difference	No	7	4.2857	4.15188	1.56926
	Yes	4	.5000	3.10913	1.55456
Relationship with others - Difference	No	7	4.0000	3.46410	1.30931
	Yes	4	1.5000	1.73205	.86603
Spiritual growth - Difference	No	7	.1429	1.21499	.45922
	Yes	4	.5000	.57735	.28868

Table 10: t-test to compare mean scores of pre-test and post-test for different PTG components focusing on previous illness

Previous illness	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	Degree of freedom	Sig. (2-tailed)	Mean standard error	Std. Error Difference	95% Confidence Interval of the Difference
	New possibilities - Difference	.053	.823	1.196	9	.262	2.64286	2.20967
Personal strengths - Difference	.143	.714	.364	9	.724	.92857	2.54784	-4.83505 6.69219
Appreciation of life - Difference	.015	.905	1.575	9	.150	3.78571	2.40429	-1.65317 9.22460
Relationship with others - Difference	1.405	.266	1.330	9	.216	2.50000	1.88035	-1.75365 6.75365
Spiritual growth - Difference	.374	.556	-.544	9	.599	-.35714	.65595	-1.84101 1.12672

Table 11: Descriptive indices of the mean scores for difference in pre-test and post-test on PTG components according to demographic variables, previous surgery

	Previous surgery	Distribution	Mean	Standard deviation	Mean standard error
New possibilities - Difference	No	2	8.5000	3.53553	2.50000
	Yes	9	4.4444	3.35824	1.11941
Personal strengths - Difference	No	2	8.5000	3.53553	2.50000
	Yes	9	4.3333	3.70810	1.23603
Appreciation of life - Difference	No	2	9.0000	5.65685	4.00000
	Yes	9	1.5556	2.40370	.80123
Relationship with others - Difference	No	2	6.5000	3.53553	2.50000
	Yes	9	2.3333	2.64575	.88192
Spiritual growth - Difference	No	2	.5000	.70711	.50000
	Yes	9	.2222	1.09291	.36430

Table 12: t-test to compare mean scores of pre-test and post-test for different PTG components focusing on previous surgery

Previous surgery	Levene's Test for Equality of Variances		t-test for Equality of Means					
	F	Sig.	t	Degree of freedom	Sig. (2-tailed)	Mean standard error	Std. Error Difference	95% Confidence Interval of the Difference
New possibilities - Difference	.004	.949	1.536	9	.159	4.05556	2.64102	-1.91884 10.02995
Personal strengths - Difference	.009	.927	1.445	9	.182	4.16667	2.88408	-2.35757 10.69090
Appreciation of life - Difference	4.934	.053	3.230	9	.010	7.44444	2.30464	2.23098 12.65791
Relationship with others - Difference	.313	.590	1.932	9	.085	4.16667	2.15667	-.71206 9.04540
Spiritual growth - Difference	.185	.677	.336	9	.744	.27778	.82631	-1.59146 2.14702

Table 13: Descriptive indices of the mean scores for difference in pre-test and post-test on PTG components according to demographic variables, education of spouses

	Education of spouses	Distribution	Mean	Standard deviation	Mean standard error
New possibilities - Difference	Diploma or lower	7	4.5714	3.86683	1.46152
	Higher than diploma	4	6.2500	3.30404	1.65202
Personal strengths - Difference	Diploma or lower	7	4.5714	4.23703	1.60144
	Higher than diploma	4	6.0000	3.55903	1.77951
Appreciation of life - Difference	Diploma or lower	7	1.2857	2.69037	1.01686
	Higher than diploma	4	5.7500	4.99166	2.49583
Relationship with others - Difference	Diploma or lower	7	2.1429	3.02372	1.14286
	Higher than diploma	4	4.7500	2.87228	1.43614
Spiritual growth - Difference	Diploma or lower	7	.5714	.78680	.29738
	Higher than diploma	4	-.2500	1.25831	.62915

Table 14: t-test to compare mean scores of pre-test and post-test for different PTG components focusing on education of spouses

Education of spouses	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Degree of freedom	Sig. (2-tailed)	Mean standard error	Std. Error Difference	95% Confidence Interval of the Difference	
New possibilities - Difference	.610	.455	-.726	9	.486	-1.67857	2.31207	-6.90883	3.55169
Personal strengths - Difference	.251	.628	-.566	9	.585	-1.42857	2.52201	-7.13376	4.27662
Appreciation of life - Difference	1.438	.261	-1.966	9	.081	-4.46429	2.27125	-9.60222	.67364
Relationship with others - Difference	.027	.872	-1.399	9	.195	-2.60714	1.86411	-6.82406	1.60977
Spiritual growth - Difference	.467	.512	1.351	9	.210	.82143	.60784	-.55361	2.19646

There is no significant difference between mean scores of pre-test and post-test in groups with education lower and higher than diploma in a confidence level of 95% for four components of PTG (new possibilities, personal strengths, relationships with others, spiritual growth). The difference was only significant for mean scores of appreciation of life before and after the positive group therapy. This indicates that education has been effective as a moderating variable on effectiveness of the Park and Seligman's positive group therapy.

To examine whether occupation causes differences in the effectiveness of positive group therapy of Parks and Seligman on PTG, t-test was used to compare mean independent samples. The results are summarized in Table 7 and 8.

As Table 7 shows, highest and lowest difference in observed pre-test and post-test means was related to appreciation of life and relationships with others, respectively.

There is no significant difference between mean scores of pre-test and post-test in employed and housewives groups in a confidence level of 95% for the five components of PTG. That means occupation played no role on effectiveness of Park and Seligman's group therapy.

To examine whether previous illness causes differences in the effectiveness of positive group therapy of Parks and Seligman on PTG, t-test was used to compare mean independent samples. The results are summarized in Table 9 and 10.

As Table 9 shows, highest and lowest difference in observed pre-test and post-test means was related to spiritual growth and appreciation of life, respectively.

There is no significant difference between mean scores of pre-test and post-test in groups with and without previous illness in a confidence level of 95% for the five components of PTG. That means previous illness played no role on effectiveness of Park and Seligman's group therapy.

To examine whether previous surgery causes differences in the effectiveness of positive group therapy of Parks and Seligman on PTG, t-test was used to compare mean independent samples. The results are summarized in Table 11 and 12.

As Table 11 shows, highest and lowest difference in observed pre-test and post-test means was related to spiritual growth and appreciation of life, respectively.

There is no significant difference between mean scores of pre-test and post-test in groups with and without previous surgery in a confidence level of 95% for four components of PTG (new possibilities, personal strengths, relationships with others, spiritual growth). The difference was only significant for mean scores of appreciation of life before and after the positive group therapy. This indicates that previous surgery has been effective as a moderating variable on effectiveness of the Park and Seligman's positive group therapy.

To examine whether education of spouses causes differences in the effectiveness of positive group therapy of Parks and Seligman on PTG, t-test was used to compare mean independent samples. The results are summarized in Table 13 and 14. As Table 13 shows, highest and lowest difference in observed pre-test and post-test means was related to appreciation of life and spiritual growth, respectively. There is no significant difference between mean scores of pre-test and post-test in groups with spouses who had educations higher or lower than diploma in a confidence level of 95% for the five components of PTG. That means, education of spouses played no role on effectiveness of Park and Seligman's group therapy. It is noteworthy that difference was only significant for appreciation of life in a confidence level of 90% before and after positive group therapy.

DISCUSSION AND CONCLUSION

In the conducted Park and Seligman's positive group therapy intervention, participants were administered a series of positive psychology exercises in which participants were taught how to increase new possibilities, personal strength,

appreciation of life, relationships with others using exercises of using competences, expressing positive things, gratefulness, enjoying every day experiences, responding proactively, summarizing life and practicing positive things to help people. Generally, learning these skills can increase PTG in these people to experience positive emotions (joy of life), engagement (interactive life), meaningfulness (meaning of life) along with disease, associated with variables such as occupation, previous medical history, previous surgery, revenue, education and spouse's education.

To examine whether positive group therapy has an effect on PTG of subjects with breast cancer, the results of comparing PTG before and after group therapy showed that the intervention has been effective on 4 PTG components (new possibilities, personal strengths, appreciation of life and relationships with others) (Table 2, $p < 0.05$) while no significant difference was found for the fifth component (Table 2, $p > 0.05$). A significant difference in pre-test and post-test of new possibilities can be due to the fact that a purpose of the treatment is to change life style using strengths existing in physical and psychological structure of people. The therapist focused on this fact through exercises. The significant difference was under these exercises and solutions. Personal strengths are another trait with significant difference in this study. It is noteworthy that strengths were identified in the first session. In all sessions, it was a task to consider this trait and report using strengths. The difference was due to the focus on this trait through treatment. Appreciation of life was the third significant component. The therapist attempted to introduce values of life and beauties of appreciation of life to people with cancer (participants). Throughout the sessions, participants discussed and exercised appreciation of life. As the results show, the exercises were successful (such as exercise on enjoying daily life). Regarding the component, relationships with others, proactive/constructor exercises and appreciation letter of others were tasks of the sample group through which relationships were improved and corrected. The results can show effectiveness of this part. Concerning spiritual growth, Tedeschi and Calhoun showed that a person faced with a traumatic event

might lead to a deeper understanding of the existential awareness and a deeper need for spiritual connection in helping to create a sense of meaning in life. It seems that this component only grows when confronting with trauma and other variables are ineffective on development of this component.

All the above are part of a treatment program for creating PTG in patients and significant difference confirms the success of this method in promoting its growth.

The present study examined the effect of positive group therapy of Park and Seligman on increased PTG components. Results indicate that the used psychological intervention is able to accelerate the occurrence of PTG. Looking at the various researches done in the field of creating PTG, It is noteworthy that, the growth takes place only in a group of persons; Second, the time after the occurrence of a traumatic event is effective ¹⁹. However, the present study has shown that occurrence of PTG can be accelerated by an

objective planning which plays an important role in disease adjustment. Planning also facilitates damages resulting from crisis. In addition, it can provide the opportunity to create PTG in all damaged groups. Using t-test to compare mean independent samples in a confidence level of 95%, education and previous surgery as moderating variables influenced effectiveness of the positive group therapy. In 90%, revenue and spouse's education as moderating variables influenced effectiveness of the positive group therapy. Findings of the present study are consistent with Linley and Joseph ²⁰.

Accordingly, education and previous surgery were effective on effectiveness of the therapy. In other words, findings suggest that education can be considered as an effective factor on treatment. People with higher education get more interests of the Park and Seligman's positive group therapy, which was predictable. People who were exposed to stress and experienced less PTG were prone to receive more interests of the therapy.

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