Original Article

The Effectiveness of Solution- Focused Brief Therapy (SFBT) on Posttraumatic Stress Symptoms in Parents of Children with Cancer

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Abstract

Introduction: During cancer treatment, parents are faced with a number of challenges that require making difficult decisions. The aim of this project was investigating effectiveness of Solution-Focused Brief Therapy (SFBT) on posttraumatic stress symptoms in parents of children with cancer.
Methods: The present research will be an experimental study with pretest-posttest design using control and experimental groups. The statistical population of the study includes all parents of children with cancer of Shiraz hospitals during 2016-2017. To select the statistical sample, convenient sampling method will be used. Twenty-four people will be randomly selected and they will be randomly assigned in a control (12 people), and experimental group (12 people). Instrument used in this research includes impact of events scale.
Results: Investigating the significance hypothesis revealed that the difference among the two groups in co-variance analysis in terms of posttraumatic stress symptoms in the posttest was significant (F = 256.0, p = 0.0001). The two groups were different in multiple co-variance analysis in terms of subscales of posttraumatic stress symptoms (intrusion, avoidance, and hyperarousal) in the posttest was significant (F = 50.0, p = 0.0001 in intrusion, F = 173.0, p = 0.0001 in avoidance and F = 124.0, p = 0 .0001 in hyperarousal).
Conclusion: The research findings showed that solution-focused brief therapy on posttraumatic stress symptoms was effective. The authors contend that SFBT is particularly well suited for use with cancer patients and their families because "the nature of the disease is such that crises are intermittent throughout the course of the illness".
Declaration of Interest: None.

Key words: Solution-Focused brief therapy, Children, Cancer

Introduction

A Solution-Focused Brief Therapy (SFBT) for caregivers of children with cancer learn that one's child has cancer is a devastating, and often traumatic, experience for parents. For parents, this experience has been found to be as potentially traumatizing as crime victims (1,2). After child's cancer diagnosis, parents experience intense stress as a result of hospitalization, invasive medical procedures, and fears about the child's future health status. The consequences of this early traumatization often include high stress levels in parents (3,4). Evidence is mixed regarding how long after diagnosis increased levels of stress exist for parents. Some evidence suggests that stress levels decrease within six months of diagnosis (5) while other evidence suggests that distress levels remain high well into the child's cancer remission or survivorship (6,7).

During cancer treatment, parents are faced with a number of challenges that require making difficult decisions (8). There is evidence that hearing the news of one's child's diagnosis of

cancer can contribute to posttraumatic stress symptoms (PTSS) (2,9,10) or posttraumatic stress disorder (PTSD) in some parents (2,10). Factors associated with increased risk for stress. Research has identified some factors that make parents more susceptible to developing PTSS symptoms (2,5,7,9).

Solution-focused brief therapy (SFBT) change processes were originally grounded in the constructivist approaches to communication and social interactional theories (11,12,13,14) and over time SFBT also became associated with social constructionism and the philosophical, post structural views of language such as Wittgenstein's language games (15,16). Researchers have noted that the specific questioning techniques (e.g., miracle questions, scaling, etc.) are an important means of facilitating changes with clients (17), and that increasing positive expectancies, and positive emotion, such as hope and optimism, may be associated with positive outcomes within SFBT (18,19,20).

A treatment manual on SFBT was first developed in 2008, and updated in 2013 (21,22) by the Solution-focused Brief Therapy Association (SFBTA). The research committee identifies active ingredients and the core processes of conversations that are important in SFBT. These ingredients include conversations that involve a therapeutic process of co-constructing, by altering and/or creating new meanings with clients. Co-construction is a collaborative process in communication where speaker and listener collaborate to negotiate meanings, and this jointly produced information in turn acts to shift meanings and social interactions (21). According to the SFBT treatment manual, clients are specifically asked to co-construct a vision of a preferred future and draw on their past successes, strengths, and resources to make that vision a part of their everyday lives.

There have been several research studies conducted regarding the effectiveness of SFBT (23,24,25,26). One research reviewed fifteen controlled outcome studies of SFBT to examine the effectiveness of this approach to therapy (27). The SFBT has been used in treatment approaches when working with such difficult issues as domestic violence, substance abuse, severe abuse victims and juvenile offending (13). Some researchers discussed the use of SFBT with cancer patients and their families (28). Additionally, we found several systematic reviews and meta-analyses of SFBT outcomes (18,29,30,31,32) supporting an increasing evidence-base for SFBT; however, none of the systematic reviews examined mechanisms of change for SFBT (33,34).

So far, the effectiveness of this treatment has not been addressed to the parents of children with cancer. The aim of this project was investigating difference between experimental and control group in terms of posttraumatic stress symptoms and it's subscales in the posttest.

Methodology

The present research will be an experimental study with pretest-posttest design using control and experimental groups. The statistical population of the study includes all parents of children with cancer of Shiraz hospitals during 2016-2017. To select the statistical sample, convenient sampling method will be used. Twenty-four people will be randomly selected and they will be randomly assigned in a control (12 people), and experimental group (12 people). Instrument used in this research includes Impact of Events Scale. Criteria for selecting individuals included: 1-Having a child with cancer, 2-The presence of symptoms of post-traumatic stress disorder.

Impact of Events Scale: This scale is a 22-item self-report measure for assessing Past Traumatic Stress Symptoms. Its three subscales: Intrusion, Avoidance, and Hyperarousal, assess symptoms associated with trauma experience. The IES-R has been found to have excellent internal consistency ($\alpha = 0.93$) (10, 35, 36). In this research it had adequate internal consistency ($\alpha = 0.73$) and conformity factor analysis was adequate (RMSEA=0.07) by analyzing data using structural equation modeling (SEM).

Results

The study sample consisted of 24 parents of children with cancer, including 12 (50%) women and 12 (50%) men, control group and experimental group include 6 women and 6

men. The age of parents ranged from 23 to 55 years with an average of36.0±8.0SD. Descriptive information, means and standard deviation (SD) of variables were showed (Table 2).

Table 2. Means and standard deviation of parents of children with cancer's scores of posttraumatic stress symptoms and subscales

Group	Statistical Indexes							
	M	SD	M	SD	M	SD	M	SD
Pretest Experimental	66.0	5.0	23.0	3.0	25.0	2.0	17.0	1.0
Pretest Control	34.0	2.0	18.08	2.0	9.0	2.0	6.0	1.0
Posttest Experimental	61.0	4.0	21.0	2.0	22.0	2.0	17.07	2.0
Posttest Control	60..	3.0	21.0	2.0	22.0	2.0	16.0	2.0

To investigate the significance difference between the two groups in terms of posttraumatic stress symptoms in the posttest, one-way co-variance analysis method (ANOCOVA) was employed. Lack of significance of LEVEN test was established as the default of co-variance analysis. Sex and pretest were considered as covariate variables. Investigating the significance hypothesis revealed that of difference between the two groups in co-variance analysis in terms of posttraumatic stress symptoms in the posttest was significant (F=256.0,*P*=0.0001) (Table 3).

Table 3. Co-variance analysis of posttraumatic stress symptoms in the posttest

Source	SS	df	MS	F	Sig
Intercept	75.0	1	75.0	7.0	.0001
Pretest	35.0	1	35.0	3.0	.0001
Sex	23.0	1	23.0	2.0	.0001
Group	2760.0	1	2760.0	265.0	.0001
Error	208.09	20	10.0		

To investigating the significance difference between the two groups in terms of subscales of posttraumatic stress symptoms (intrusion, avoidance, and hyperarousal) in the pretest and posttest, multiple co-variance analysis method (MANOCOVA) was employed. Lack of significance of LEVEN test and Wilks Lambda were established as the default of co-variance analysis. Sex and pretest were considered as covariate variables. Investigating the significance hypothesis revealed that of difference between the two groups in multiple co-variance analysis in terms of subscales of posttraumatic stress symptoms (intrusion, avoidance, and hyperarousal) in the posttest was significant (F = 50.0, p = 0.0001 in intrusion, F = 173.0, p = 0.0001 in avoidance and F = 124.0, p = 0.0001 in hyperarousal) (Table 4)

Table 4. Multiple co-variance analysis of subscales of posttraumatic stress symptoms (intrusion, avoidance, and hyperarousal) in the posttest

Source		SS	df	MS	F	Sig
Intercept	Posttest Intrusion	1.0	1	1.0	1.0	0.0001
	Posttest Avoidance	15.0	1	15.0	4.0	0.0001
	Posttest Hyperarousal	3.0	1	3.0	1.0	0.0001
Pretest Intrusion	Posttest Intrusion	66.0	1	66.0	53.0	0.0001
	Posttest Avoidance	26.0	1	26.0	7.0	0.01
	Posttest Hyperarousal	0.0001	1	.0001	.06	0.0001
Pretest Avoidance	Posttest Intrusion	5.0	1	5.0	4.0	0.04
	Posttest Avoidance	33.0	1	33.0	9.0	0.007
	Posttest Hyperarousal	3.0	1	3.0	1.0	0.0001
Pretest Hyperarousal	Posttest Intrusion	1.0	1	1.0	1.0	0.0001
	Posttest Avoidance	0.0001	1	0.0001	0.05	0.0001
	Posttest Hyperarousal	20.0	1	20.0	7.0	0.01
Sex	Posttest Intrusion	10.0	1	10.0	8.0	0.01
	Posttest Avoidance	3.0	1	3.0	0.0001	0.0001
	Posttest Hyperarousal	0.0001	1	0.0001	0.05	0.0001
Group	Posttest Intrusion	63.0	1	63.0	50.0	0.0001
	Posttest Avoidance	633.0	1	633.0	173.0	0.0001
	Posttest Hyperarousal	348.0	1	348.0	124.0	0.0001
Error	Posttest Intrusion	22.0	18	1.0		
	Posttest Avoidance	65.0	18	3.0		
	Posttest Hyperarousal	50.0	18	2.0		

Discussion

The main aim of this research was investigating effective SFBT on posttraumatic stress symptoms in parents of children with cancer. It was hypothesized that solution-focused brief therapy on posttraumatic stress symptoms was effective.

Result revealed that the difference among the pretest and posttest in terms of posttraumatic stress symptoms and it's subscales in the experimental group was significant and in the control group was not significant.

This finding was supported by McKeel's (2012), Bavelas and Jordan (2014), Jordan, Froerer, and Bavelas (2013), Korman, Bavelas, and De Jong (2013), Gingerich and Eisengart (2000), D. Cunanan (2003), Neilson-Clayton and Brownlee (2002), Bond, Woods, Humphrey, Symes, and Green (2013), Gingerich and Peterson (2013), Kim (2008),

Kim et al. (2015), Stams, Dekovic, Buist, and de Vries (2006), Franklin and Montgomery (2013).

As the research findings showed the effect of solution-focused brief therapy on posttraumatic stress symptoms was significant in the experimental group considering pretest and sex as covariate variables. In fact the use of SFBT with cancer patients and their families, although modifications to the approach, specifically the miracle question, are needed when working with this particular population. The authors contend that SFBT is particularly well suited for use with cancer patients and their families because "the nature of the disease is such that crises are intermittent throughout the course of the illness". Given that intermittent crisis is part of living with a diagnosis of cancer, the therapist can capitalize on the times when the patient and patient's family were able to successfully cope with the illness and live through a period of crisis. The authors also discuss the problems related to using the miracle question with this population, as the connotation of the word "miracle" is almost always associated with the elimination of the cancer itself. The authors devised an alternative wording to the miracle question, which appeared to be well received by their patients. The alternative question asked the patients to "suppose they took time to consider their situation and decided that the concerns that brought them into counseling were no longer present." The authors further discuss the mismatch between using an approach that places emphasis on positive emotions and the reluctance a patient/family member may feel given the gravity of a diagnosis of cancer. They indicate that the use of coping questions during the times a patient/family member may be feeling overwhelmed by negative emotions could be helpful.

While the findings of this study are limited, SFBT training has the potential to be a viable intervention, specifically for parents during the pre-diagnostic phase. Despite the notion that SFBT could be effective during various stages of treatment, this study supported previous research in that it is effective early in treatment. One possibility is for psychosocial providers in pediatric oncology clinics to integrate SFBT into the standard of care for newly diagnosed families. Eight sessions appears sufficient for teaching SFBT skills, but more research needs to be done to determine the minimum number of sessions required to impact parental distress. Also, given the problems with treatment fidelity in this study, psychosocial providers should strive to stricter adherence to an intervention manual.

The goal of the current study was to examine the efficacy of an eight-session SFBT intervention to ameliorate care giving posttraumatic stress symptoms in caregivers of children with cancer. It was a randomized controlled trial with an attention control. The study successfully yielded significant results on the outcomes of interest (SFBT ability and posttraumatic stress symptoms). However, the study did show that intervention of participant usage of the intervention materials led to improvements in finding solution ability at the treatment. In addition, participant feedback in both the intervention and control conditions was positive, suggesting that any psychosocial intervention for care givers of children with cancer is well received and beneficial. Limitations in study design, particularly limited number of intervention sessions and small sample size, most likely contributed to the lack of effect. However, this study represents an important step toward developing psychosocial interventions for caregivers that are both efficacious and manageable to conduct in a pediatric hematology/oncology setting.

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