

Cognitive Group Psychotherapy in Patients with Tuberculosis

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ABSTRACT

Objective: Dysfunctional beliefs of tuberculosis patients have pivotal role in treatment and development of their serious psychiatric problems. Cognitive group psychotherapy has been utilized to manage the dysfunctional beliefs.

Methods: In a quasi-experimental study and a pretest and posttest design, 24 male tubercular patients were selected by convenient sampling and then randomly assigned to two experimental and control groups. Before and after 12 sessions of psychological intervention, they completed the Snyder Hope Scale (Snyder, 1991).

Results: The student t-test showed that cognitive group psychotherapy, can significantly decrease dysfunctional beliefs and increase hopefulness in experimental group ($P < 0.05$).

Conclusion: Tuberculosis patients need psychological treatment as well as medications. These interventions can raise the level of hopefulness as one of the most vital components in coping with tuberculosis.

1. Introduction

Chronic disease is a multidimensional phenomenon and is frequently accompanied with many issues. There are increased hospitalizations due to chronic illness with high costs of care and treatment, and the healthcare system is facing significant complexities (Marshall, Haywood, & Fitzpatrick, 2005).

Tuberculosis is a chronic progressive disease, and disrupts many functional aspects of personal and family life (Table 5). At present, it is the most significant cause of mortality from infectious diseases on its own (even more than AIDS¹, Malaria or Measles). It is estimated that until the year 2020, it will keep its present place

or will move up to seventh place (Shoraka, Hosseini, Alizadeh, & Alavinia, 2011). Even though, tuberculosis is preventable and controllable, because of increased drug resistance, it once again presents as a major public health threat. Patients are responsible for spread of resistant infection, recurrence of disease and lack of compliance with anti tuberculosis medication regimen (Pishkar Mofrad, Sabzevari, & Mohammad Alizadeh, 2001).

Many of the chronic physical problems have led to a self-directed approach to adaptation with illness and its consequences. It seems that patients need to work with health care professionals and take a more active role in management of their concerns. The most prevalent reason for lack of medication response in tuberculosis patients is incorrect or irregular use of medications and

1. Acquired Immune Deficiency Syndrome

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lack of compliance with medication regimen. For success of treatment plans in chronic diseases like tuberculosis, increased cooperation and psychological tolerance of patients is required. The reason is prolonged treatments with various side effects and potentially toxic effects, societal exclusion, denial of illness by the patient and family, concerns regarding the process, costs, and consequences of tuberculosis (Pourkhaki, Etaati, Mirsaedi, Masjedi, & Velayati, 2006).

As a result, significant influence will be placed on the patient's quality of life and acceptance of treatment. It is the responsibility of all health care workers for prevention of complications such as drug resistance, to find ways of coping for the patients (Kiani, 2001). Teamwork, and particularly nonmedical intervention are often forgotten in tuberculosis patients' psychological well-being, and the can be an important goal and key step for treatment success.

Rollo May (1998) existential psychologists believes that recovery from illness is an active process and not being acted upon and patients needs to be an active participant in the treatment process and have fighting spirits. Hopefulness is another variable that in recent years has gained attention in the domain of personality. It is defined as the motivation for living and is among the most important psychological needs of human beings. Hopeful people consider stressors as life problems, (Snyder, 2002). It seems that having coping skills may help the patient in reaching personal goals (Snyder et al., 2000). Affleck & Tennen (1996) noticed that hope-

ful people during their stages of treatment show higher strength in tolerating prolonged and painful treatments and during chemotherapy or radiotherapy are more likely to follow-up with treatments.

During healthy periods, hopeful people have more positive attitude towards life and have increased interest in understanding positive aspects of traumatic situations (Bijari et al., 2009). In relation to group psychotherapy of cancer patients, Yalom & Vinograd (1988) believe that cancer patients inhibit their feelings about disease, become more distant from them every day, and are less likely to permit new experiences enter their cognition. As a result, pessimistic views, the unhappy situation of being tired of life, hopelessness, feeling alone and fear of death is cultivated in them.

In this study, we applied cognitive group psychotherapy to increase hope in tuberculosis patients. The main theory was not to remove concerns for these patients, but the goal was that the patients distinguish between concerns that are harmful and concerns that might be of utility.

Researchers suggest that it is necessary that healthcare workers understand the frame of cognitive understanding of patients upon which they give meaning to their experiences; because cognitions are very important in meaning of experiences (Buick, 1997). According to the cognitive theory, unhappiness and hopelessness of an individual in dealing with threatening and devastating situations such as acquiring a chronic disease is devastating because of the person's outlook towards it, not

Table 1. The description of therapy sessions.

First to third session	<ul style="list-style-type: none"> - Familiarity, introduction and expression of group goals, content of the sessions, focus on confidentiality and group rules - Measuring the level of hopefulness by using Snyder Hope Scale - Providing a supportive and cooperative atmosphere in the group for creating a feeling of security and trust to each other and the group leader - Requesting the members to actively participate in the group and encouraging them to connect and support each other - Encouraging members to speak about their illness and its influences on their life situation and family - Helping with the process of openness and discussion of strategies or style of coping between the members
Fifth to eighth sessions	<ul style="list-style-type: none"> - Evaluation and discovery of cognitive distortions affecting the hopeless thoughts - Challenging distorted cognition - Individual awareness of their cognitive interpretations in life situations - Provision of previously prepared brochure about various cognitive distortions as a guide for recognizing distortions - Provision of homework to replace illogical and negative thoughts with logical and realistic ones
Ninth to twelfth sessions	<ul style="list-style-type: none"> - Evaluation and discussion of the homework given in the previous session - Provision of guidance (direct or indirect) for overcoming dysfunctional thoughts using the cognitive view of Alice and Beck - Provision of cognitive factors affecting hopefulness - Discussion of effects of hopefulness on individual functioning - Concluding and performing the post-test

Table 2. Experimental values from pre and posttests for the treatment and control groups.

Group	N	Pre-test		Post-test	
		M	SD	M	SD
Treatment group	12	23.75	2.09	28.58	2.19
Control group	12	23.33	2.26	25.25	2.45

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the situation itself (Ellis, 1962). Unhappy beliefs can lead people to dysfunctional thoughts and self-defeating ideas and are causes of negative psychiatric symptoms in people at the body, behavioral, emotional and motivational levels (Beck, 1967; Beck, 1987).

Group psychotherapy for these patients has a successful and fruitful quality. Group members because of their similar situations, experience close thoughts, emotions and excitements. They acquire patience and ability to face their problems and not only teach each other, but can also have a supportive and therapeutic role in the context. So, the main goal of the present study was to clarify the role of cognitive group therapy in modifying hopefulness and dysfunctional beliefs.

2. Methods

This was a quasi-experimental study based on pre and post intervention evaluations. The sample of this study was all hospitalized male patients with tuberculosis at Masih Daneshvari Hospital, Tehran who attended this medical center during 2012. Sampling was based on all patients hospitalized in the tuberculosis wards by order of admission who met the inclusion criteria until a group of 24 individuals was formed. The participants were randomly assigned to treatment and control groups. After evaluation of hopefulness levels, 12 cognitive therapy group sessions were held (three times a week) for the treatment group and after completion of treatment; post testing was performed in both groups.

Considering the physical state of the patients and the time limits and possibility of discharging from the hospital, the sessions were held in intensive fashion. It was still attempted to keep the group sessions full of content, based on the experiences of the group members and

with focus on interfering with dysfunctional thoughts and outlooks, in a simple and clear manner. Additionally, to be ethically considerate, the control group was permitted to participate in the group psychotherapy, by using questionnaires including demographic information and the Snyder Hope Scale. This questionnaire has been proposed by Snyder and colleagues (1991), comprised 12 questions in two subsections Agency subscale and Pathways subscale, and is performed via self-assessment. Internal consistency has been 0.74 to 0.84 and re-test consistency has been estimated at 0.80. Internal consistency for the agency subscale has been 0.71 to 0.76 and for the pathways, subscale has been 0.63 to 0.80. This questionnaire has had correlation (0.50 to 0.60) with Scheier and Carver's optimism questionnaires and negative correlation (-0.42) with the Beck's depression inventory (Snyder and Peterson, 2000). In a study, reliability of Snyder's Hope was reported at 0.89 (Golzari, 2007).

All patients were given informed form consent before participation and the whole project was confirmed in the ethical committee of the hospital. The framework for the treatment was based on Beck's cognitive approach and Alice's cognitive excitement treatment. A summary of the sessions are as follows (Table 1).

Statistical analysis was performed using the parametric independent t-test. The difference between the pre and posttest results was calculated and the means of the results was compared between the two groups.

3. Results

Participants included 24 males with mean age of 35 ± 11.35 years (range 23-57). Ten individuals (33.3%) were single and 14 (46.7%) were married. Mean and

Table 3. Test for significance of mean total score difference between the two treatment and control groups.

Variable	Group	M	SD	SE mean	Mean difference	SE difference	T	df	P
Hopefulness	Treatment	4.83	2.20	0.637	2.91	0.8	3.644	22	0.001
	Control	1.91	1.67	0.483					

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Table 4. Test for significance of means score difference between the treatment and control groups in the subsections of the Snyder Hope Scale.

Variable P	Group	M	SD	SE mean	Mean difference	SE difference	T	df
Factor thinking 0.01	Treatment	2.50	1.38	0.398	1.33	0.527	2.530	22
	Control	1.167	1.19	0.344				
Strategic thinking 0.03	Treatment	2.33	1.72	0.497	1.50	0.653	2.296	22
	Control	0.83	1.46	0.423				

standard deviation of treatment and control group scores in the pre-test and post-test are presented in Table 2.

As shown in the Table 2, mean score for hopefulness in the posttest has increased in the treatment group compared to the control group. In the pretest, mean score for the treatment and control groups were 23.75±2.09 and 23.33±2.26 respectively. In the post-test mean score for the treatment group was 28.58±2.19 and for the control group was 25.25±2.45. Hopefulness levels in pretest were the same between the two groups $t=0.557$ and were not statistically significant at $P<0.05$. Results of the independent t-test for differences in hopefulness scores are shown in Tables 3 and 4.

As shown in Table 3, by assuming equal variance for the two groups in the Leven test ($F=0.460$, $P>0.05$), results of the t-test ($t=3.644$, $P<0.01$) shows that cognitive group psychotherapy has significantly resulted in increased hopefulness in the male patients with tuberculosis. As shown in Table 4, the differences in mean scores of the agency subscale and pathways subscale are statistically significant at $P<0.01$ and $P<0.03$ respectively.

The results show that cognitive group psychotherapy has had more influence on the Agency subscale. Here, agency cognition refers to motivation for having a solution and pathways cognition refers to having the will power to reach the solution. Consequently, the results show that cognitive group psychotherapy has increased the motivation and will power of reaching a solution in tuberculosis patients.

4. Discussion

The purpose of this study was to evaluate the effectiveness of cognitive group psychotherapy in increasing hopefulness among patients with tuberculosis. The results of this study showed that cognitive group psychotherapy with focus on challenging wrongful thoughts and nonfunctional meanings has been successful in improving hopefulness in patients and the difference in mean score for hopefulness before and after therapy for treatment versus control groups has been statistically significant. As the results show, group cognitive therapy in the two categories of agency (motivation to reach a solution) and pathways (will power to reach a solution) has been influential. Even though this intervention has been intensive, it was effective in increasing hopefulness in tuberculosis patients.

The psychological consequences of a dangerous illness in the patient inflicted, is affected by previous beliefs about the illness and preconceptions about the world he/she lives in. It is well evident that correlation exists between how a disease presents to a patient and what it means with psychological adaptation. Research has shown that how a disease presents to a patient can be explained by various reactions to signs (Prochaska, Keller, Leventhal, & Leventhal, 1987) and self-care behaviors (Petrie, Wenman, Sharpe, & Buckley, 1996). Patients with more negative outlook towards their illness have increased risk of depression (Murphy, Dickens, & Crowley, 1999). Patients who consider their illness dangerous, chronic and uncontrollable are more disrupted

Table 5. Examples of cognitive distortions and negative feelings experienced by tuberculosis patients.

1. It is painful when I think that I cannot hug or kiss my child in the way I want.
2. When others leave me because of my illness, I want to die.
3. Life is not bearable, when I see I am of no use any more.
4. I wonder if God liked me, when I have come down with such a disaster maybe I was not meant to live.
5. I will eventually die of illness, whether a year earlier or later.
6. I am a useless husband or father because I cannot do anything for my wife or child.
7. I am young, but the future is unsure and hopeless.
8. Happiness is in full health.
9. I do not believe that treatment is useful.

and give up and have weaker social functioning and have more psychiatric problems (Heijmans, 1999). As a result, effort to correct beliefs can lead to gain hope, particularly if this effort is taken as a group.

Additionally, researchers believe that increased hope, may increase self-care, quality of life and improved health in these individuals too (Snyder, 1991). Groopman (2005), Snyder & Rand (2005) indicated that involving patients with terminal illness have shown that the beliefs and expectations can act as medication and have a positive effect on the central nervous system. For this reason, patients who have hope for improvement and health, due to positive beliefs and expectations from therapy, may heal sooner. Snyder & Lopez (2001) consider hope as an effective medication for treatment of physical, mental illness, and note that hope can cause positive changes in human physiology.

As a result and specially since in chronic disease patients there is a gradual, long term and indeterminate course treatment of physical illness becomes more difficult, especially if these patients have psychiatric illness as well. Effort to improve mental health of chronic disease patients seems to be a necessity and success can be achieved with acceptance of illness and treatment. The results of this study, brings attention to physicians and health care workers indicating that patients with chronic illness particularly tuberculosis can improve their adaptability with their physical illness in addition to medication need psychotherapy and the latter.

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