Original Article

Comparative effectiveness of cognitive-behavioral group therapy and reality therapy on the quality of life of patients with seborrheic dermatitis

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Abstract

Context: Skin diseases contribute to considerable psychological consequences and low quality of life (QOL) in these patients; it is believed that psychological status can be effective in the improvement of the disease.

Aims: Therefore, this study aimed to compare the effect of cognitive-behavioral therapy (CBT) with reality therapy (RT) on QOL in patients with seborrheic dermatitis.

Setting and Design: This semi-experimental study with pre- and posttest conducted in the private clinics of Sari and Ghayemshahr.

Materials and Methods: Forty-eight cases selected by purposive method and randomized in three groups of control, cognitive-behavioral, and RT. Participants in three groups' evaluated pre-posttest and follow-up (3 months after intervention) by skin QOL index Wang (1994). Intervention groups received 10 weeks intervention, whereas the control group did not receive any intervention during this study.

Statistical Analysis Used: The data were analyzed using SPSS-20 software through mixed covariance analysis.

Results: There was no significant difference found between the two intervention groups ($P > 0.05$). The comparison of the effect size of two groups showed higher effect size for CBT group 0.81 versus 0.51.

Conclusion: According to the findings of the research, it can be concluded that CBT and RT are effective on QOL and severity of skin disease.

Keywords: Cognitive-behavioral therapy, Quality of life, Reality-therapy, Seborrheic dermatitis

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INTRODUCTION

Seborrheic dermatitis is a common chronic inflammatory skin condition, characterized by scaling and poorly defined erythematous patches. It is associated with pruritus, and it primarily affects sebum-rich areas, such as the scalp, face, upper chest, and back.[1] The prevalence of disease in the general population estimated about 1%–3% and often affects people aged 18–40.[2] In this age, most people are in sensitive stage of their lives, such as marriage, creating

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social interactions, and making professional life. The physical appearance and body image affects all of these functions.[3]

Although the etiology of this disease is not known, it is frequently associated with anxiety, depression, and stress.[4] Stress and rumination about the illness and fear of appearance negatively affect the quality of life (QOL).[5-7] Comparing of skin involved disease cases with normal people indicated a lower QOL.[7] Common treatments for this disease are pharmacologic therapies, which usually do not succeed completely and even leads to some side effects and risk of relapse is always remind very high.[8,9]

The researchers are almost agree regarding potential relationship between mental health and skin disorders. Therefore, psychological treatments are suggested to reduce the psychological and physical symptoms of these diseases. One of the most well-known and effective psychotherapy is cognitive-behavioral therapy (CBT) that has been shown as effective in increasing the mental health and QOL of people with skin problems.[10-12]

This approach, through combining cognitive and behavioral techniques, influences negative automatic thoughts, underlying assumptions, and the cognitive process of thinking, memory, and attention, through the neural relationship between the brain and the body in biological systems affect the emotions and functions of the body and cause different symptoms.[13] Based on the Beck's cognitive pattern, cognitive therapy in patients with skin disease seeks to identify and restructure ineffective thoughts and beliefs that have extreme emotional and psychological reactions related to skin symptoms.[14]

Another successful treatment that shown as effective in many psychological and physical problems is the reality therapy (RT), which developed, based on choice theory. This approach effects through helping clients to take responsibility for their behavioral choice rather than accepting that they were victims of their own impulses, also motivates clients to make dramatic changes by identify and meet the essential needs.[15] In general, reality-therapeutic approach suggests that human beings be viewed as a being with inherent self-determination. Even in those who are physically and psychologically restricted, their lifestyle and performance make it clear what they want to do in the future.[16]

According Tümlü *et al*. and Dizjani and Kharamin, RT is a successful psychological treatment enhancement of QOL.[17,18] Rumsey in a review study concluded that CBT is one of the most effective psychological approaches in improvement of patients involved with dermatitis disorders.[19] Bundy *et al*. reported effectiveness of CBT intervention in the improvement of QOL of patients with psoriasis.[20]

Some researchers believed that CBT could be effective on the improvement of QOL of patients involved skin disorders as they are highly involved with stress and cognitive bias.[19,20] Although in a recent study, Hedman-Lagerlöf *et al*. reported no significant effectiveness of CBT intervention on QOL of patients with atopic dermatitis.[12] In term of effectiveness of RT on QOL limited studies published and in the context of skin problems, the effectiveness of RT was not found. Therefore, this study aimed to compare the effect of CBT with group RT on QOL in patients with seborrheic dermatitis.

MATERIALS AND METHODS

This study was a field trial which included three groups with pre- and post-test quasi-experimental design. Proposal of research approved in the Ethical Committee of Payame Noor University with number of IR.PNU.REC.1398.055. The research population included all skin disorder infected patients who referred in two private skin clinic (one in Qaemshahr and one in Sari city) during March 2018–August 2018. Sample size calculated based on previous studies using the Cochran formula considering, $\alpha = 0.05$ and $\beta = 80\%$, 16 samples in each group estimated (total = 48) who randomized in control, CBT and RT, 38 cases remind after drop out.

Inclusion criteria

The inclusion criteria were as follows: diagnosed as a patient with moderate and severe Seborrheic Dermatitis patient by physician, educated at least up to high school, fluency in Persian, and lack of acute economic, mental, and physical problems.

Exclusion criteria

Criteria such as other chronic illness, unwillingness to continue cooperation, noncomplete training sessions, smoking, and drug change in the treatment process, psychological illness have coincided with another study.

All participants were male, age range 18–36 years, with mean age of 30.5 ± 5.6 and duration of disease (1–10 years); with mean 4.54 ± 2.34 years. Patients examined through semi-structural interview by researcher aimed to screen mental health disorders. The cases

with psychotherapy history and mental health disorder were excluded from the study. Participants of three groups evaluated in the pre test-post test and follow up stages (3 months after intervention) with the following tools: demographic information questionnaire (age, marital status, occupation, degree of education, social support status of the place of residence, number of children, history of physical diseases, history of other skin diseases and severity of seborrheic dermatitis, and history of participation in psychotherapy).

Skin quality of life index (dermatology life quality index)

This questionnaire developed by Wang (1994) consists of ten questions about patient's experiences in the previous week. The questionnaire graded by Likert method. Wang *et al*. checked the validity and reliability of the questionnaire among 236 skin patients in the dermatology clinic. Factor analysis confirmed the validity of the structure of the questionnaire and the reliability coefficient of the questionnaire with the Cronbach formula was 0.87.[21] The content validity supported in Iranian study and reliability reported equal to 0.77.[22] The Cronbach alpha was 0.69 in this study.

Cognitive-behavioral cognitive therapy sessions held weekly (120 min) for eight sessions based on Beck and Allis theory according to previous studies.[23] Each session started with the training of relaxation techniques and continued with communication skills techniques, problem-solving, expressing, identifying, and challenging with automatic thoughts and anger management techniques that integrated the health issues of patients. RT sessions[24] held weekly (120 min) for eight sessions based on based on Glaser's theory according to previous studies [Table 1].

For data analysis, descriptive statistics (mean, standard deviation, percentage, and frequency) and mixed covariance analysis were used to examine and compare the effectiveness of therapies. Time series measurements considered as between factor and treatment as within factor. Data analyzed through SPSS 20 software (Released 2011. IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp. IBM Corp). The significant level was considered as $P > 0.05$.

RESULTS

Participants were homogeneous in terms of age, marital status, and education. The QOL scores of participants in the three groups did not show any significant difference before the intervention ($P > 0.05$). To analyze this hypothesis, repeated variance analysis was used. In this test, the phases (pretest, posttest, and follow-up) were tested between and within the subjects. The normal distribution of the data was verified by Kolmogorov–Smirnov test. Box's M with a value of 11.12 ($F = 1.70$, $P > 0.05$) was not statistically significant. Thus, the homogeneity assumption of the variance–covariance matrix is established. Levine test was not significant in pre- and post-test and follow-up periods ($P < 0.05$). The results of the mixed covariance analysis below presented between and within subjects [Table 2].

According to the findings, there was a significant difference between the mean scores of QOL (F [2, 35] = 6.55, $P > 0.05$; $\eta = 0.27$) between experimental and control groups. In terms of time (F[2, 35] = 5.38, $P > 0.05$; $\eta = 0.13$), significant difference was observed. Although interaction of time and group was not

Table 1: Content of intervention sessions

Intervention	Sessions	Content
CBT	1	Introduction, aims, rules, expectations, what is cognitive distortion
	2	Relationship of thoughts and emotions, identify automatic thoughts, home tasks: Complete daily worksheets of identifying dysfunctional thoughts
	3	Challenging thoughts and indenting cognitive distortion Home tasks: Complete daily worksheets of challenging dysfunctional thoughts
	4	Cognitive restructuring and replacing thoughts Home tasks: Complete daily worksheets of replacing dysfunctional thoughts
	5	Anger management, problem-solving skills home tasks: Using techniques in daily life
	6	Communication skills and emotion express home tasks: Using techniques in daily life
	7	Time management skills home tasks: Using techniques in daily life
	8	Feedback-conclusion
RT	1	Introduction, aims, expectations, rules, what is choice theory
	2	Roots of behavior, needs, identifying self needs, and awareness toward behaviors
	3	Decision-making skill and role of thought, emotion, physiology, and action in decisions and behaviors
	4	Four dimensions of conflicted behaviors and obligated behaviors
	5	Anxiety and depression in view of choice theory and emotion regulation based on acceptance
	6	Awareness of negative and positive behavior sources and self-role in life
	7	Ten fundamentals of behavioral responsibility acceptance
	8	Feedback-conclusion

CBT: Cognitive Behavioral Therapy, RT: Reality Therapy

Table 2: Mixed covariance analysis to examine the effectiveness of time and group on the quality of life

Source	SS	*Df*	MS	*F*	Power	η
Group	354.14	2	177.07	6.55*	0.88	0.27
Error	945.34	35	27.01			
Time	2.16	1	2.16	5.38*	0.61	0.13
Error	14.06	35	0.40			
Group × time	1.21	2	0.60	1.50	0.29	0.07

*$P>0.05$. MS: Multiple sclerosis, SS: Sum of squares

Table 3: Pair-wise comparison of cognitive-behavioral therapy, reality therapy, and the control groups

Groups	Mean difference	*P*	η
Time 1			
RT	−0.59	0.90	0.81
Control	4.80	0.006*	
RT			
Control	4.21	0.02*	0.51

RT: Reality therapy, *$P>0.05$

significantly different $F(2, 35) = 1.50$, $P < 0.05$; $\eta = 0.07$, the findings of the pair-wise comparison showed there is a significant difference between the mean scores of the cognitive-behavioral group and the reality of therapy compared to the control group ($P > 0.05$). There was no significant difference between the two intervention groups. The comparison of effect size of two groups showed higher effect size fir CBT group 0.81 versus 0.51 [Table 3].

DISCUSSION

The results of analysis indicated that the QOL of the majority of participants was low. QOL of patients with skin disorders was reported to be similar in the findings of the studies of Ghaderi *et al*.[25] and Kwak and Kim.[26] In this study, 11,113 people who participated in the national plan during the period of 2010–2012 were surveyed. The results showed that these people had high stress and low QOL when compared with healthy people.

In justifying this finding, it can be said that especially with regard to the age range of the infected patients who are affected by skin disease at an early age. Negative body perception leads to low self-esteem and thereby increases the likelihood of stress and depression, resulting in a person reporting low QOL in different dimensions.

The results of the comparison of cognitive-behavioral intervention and RT with control group showed participants' scores in both intervention groups have significantly decreased compared to the control group. Since the questionnaire used in the survey consisted of ten questions in the past week, the patient about the signs of skin disease (itching, discomfort, pain, or burning sensation), feeling sick (shame, embarrassment, and nervousness), daily activities (shopping jobs home), dress, social activities, entertainment, sports, and education and interpersonal relations (relationship with spouse, friends, relatives) is. This implies patients improve in skin disease signs, feeling, and social activities.

This finding is inconsistent with the results of the study conducted by Hedman-Lagerlöf *et al*.[12] aimed to determine the effectiveness of CBT along with the exposure on the QOL of patients with skin disease. In this study, nine individuals with chronic skin diseases treated with CBT therapy for 10 weeks. The results showed no effectiveness of intervention in QOL although anxiety and depression decreased. This is explainable with difference of tools, lower age of cases in our study, and larger number of samples in the present study. In line with this study, Faridhosseini[27] surveyed the effectiveness of cognitive-behavioral stress management therapy on anxiety, depression, and QOL of patients with skin disease among 16 patients with psoriasis diagnosis. The results showed that mean scores of QOL in the experimental group significantly improved in compare to the control group. Bundy *et al*. (2013) also confirmed the same results.[20]

In harmony with the present study, Khodabakhshi Koolaee *et al*. also reported effectiveness of RT on the improvement of QOL.[16] However, the results of the present study was not in harmony with results of Parizadeh *et al*.,[28] as they found existential group therapy and Group RT was not effective on the problem-solving of women after mastectomy surgery. The reason for this difference is due to the difference in samples. Since the present study included males and the participants in the study were involved in a skin superficial disease.

CONCLUSION

In general, the findings of this study suggest that CBT and RT were effective treatment for participants with skin disease. However, the effectiveness of CBT was higher. This difference is explainable due to the wide range of cognitive-behavioral techniques and involvement of the cases with real-world behavioral techniques. However, the participation in RT groups also showed impartment in QOL as the techniques used is effective in reduction of depression and stress. CBT techniques works through cognitive restructuring (identify, challenge, and change the negative thoughts), in addition using behavioral rehabilitating enhance the patient ability to management thoughts and stress.

This study has some advantages as a few studies examined the QOL of people with dermatitis problem and the effectiveness of the psychosocial program rarely conducted with long-term follow-up design in these patents. In addition comparison of two psychotherapies was the other advantages of this study Study involved with some limitations such as limited sample and high sample drop. The sample selected by convenience method and samples were not homogenous in case of income and economical level. On the other hand, the physiological and neurological conditions of cases dose were not examined because of the lack of facilities and limited financial sources. It has been suggested that large number of samples should be selected randomly to compare the effectiveness of intervention in different age, gender, and income level groups. The measurement of neurologic and physiological changes of patients before and after interventions was also suggested.

Conflicts of interest

There are no conflicts of interest.

Author's contribution

Mohammad Oraki supervised and edited all the procedures of intervention, data collection, drafting paper. Mollazadeh developed idea, reviewed the studies, gathered data, drafted reports. Ahmad Alipour drafted paper, supervised intervention, and contribute in writing. Mehran Zarghami contributed in the analysis of data, translation, and drafting. Nourbakhsh contributed in data collection, laboratory reports, and writing reports.

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