Pharmacophore

ISSN-2229-5402

Journal home page: http://www.pharmacophorejournal.com

Pharmacophore
an International Journal
ISSN 2229-5402

THE COMPARISON OF THE EFFECTIVENESS OF PROCESS MODEL OF EMOTION REGULATION TRAINING ON PSYCHOLOGICAL DISTRESS IN PATIENTS WITH PSORIASIS AND VITILIGO

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ARTICLE INFO

Received:
03th Jun 2017
Accepted:
29th Nov 2017
Available online:
14th Dec 2017

Keywords: *processing emotion regulation strategies training; psychological distress; psoriasis; vitiligo*

ABSTRACT

Background: Psychological factors such as emotion can play predisposing, precipitating or maintaining roles in skin diseases.
Objective*:* The present study was aimed to the comparison of the effectiveness of processing emotion regulation strategies training on psychological distress in patient with psoriasis and vitiligo.
Methods: The present research was a quasi-experimental study. All patients were assessed 6 times by the study's instruments (complete package of the PERST based on Gross Model, Depression, Anxiety and Stress Scale (DASS) at pre-treatment, during treatment and 45-day follow-up. Among those, 3 patients with vitiligo and 3 patients with psoriasis were selected by convenient sampling.
Results: There is no significant difference between the two groups' mean in terms of depression and stress components (P-Value>0.05) but in the anxiety component, the mean of patients with vitiligo was lower than the mean for patients with psoriasis and this difference was statistically significant (P-Value<0.05).
Conclusion: Psychological distress role in predisposing, precipitating and continuation of skin disorders especially psoriasis and vitiligo and subsequently in other aspects of their lives and the PERST can play an important role by reducing psychological distress as adjunctive and Rehabilitation therapies with medical treatment.

To Cite This Article: Mohammad Mahdi Zakeri*, Roya Rezapur, Jafar Hasani, (2017), "The comparison of the effectiveness of process model of emotion regulation training on psychological distress in patients with psoriasis and vitiligo", ***Pharmacophore, 8(6S),*** *e-1173133.*

Introduction

Skin diseases are the most prevalent diseases in the world which can be associated with considerable disabilities and many problems through personal, family, social and economic effects in people.[1] According to some statistics, in any period of time, at least one quarter to one third of people have a skin disease.[2] Skin diseases contain six subcategories, which include: 1) pigment disorders, 2) erythema, 3) skin diseases caused by metabolic errors, 4) flap of skin diseases, 5) nevi, skin neoplasms and cysts and 6) dermatitis.[3] The most common skin diseases are vitiligo and psoriasis along with 0.5-2% and 0.6-4.8% prevalence, respectively.[4, 5] The clinical course of skin diseases is due to complex interactions between biological, psychiatric, social and psychological factors which can play predisposing, precipitating or maintaining roles in skin diseases.[6] Among this, the role of psychological factors has been approved; on the one hand, psychological factors (Such as stress and negative emotions), and in other hand, mental disorders can lead to the development of skin diseases such as psoriasis and vitiligo. Experience of severe symptoms, especially itching, pain, discomfort and subsequent mental health problems are the problems that patients with skin diseases, including patients with psoriasis and vitiligo, are grappling

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with them, and may they affect important aspects of life and even social, recreational and educational activities of the patients.[9] Thus, the existence of psychological distress in patients with skin diseases has been demonstrated through many research.[10-15]

Overall, it is estimated that one in every four patients with skin diseases experience significant psychological distress.[16] Observable skin's states are often a source of emotional concern for patients. Approximately one third of patients in dermatological clinics shows some degree of emotional factors.[17-18] A review of medical literature, some of the common diseases are considered to be affected or influenced by emotional factors.[19] The presence of suppression, blocking emotional awareness, denial and difficulty in establishing emotional communications in patients with skin diseases indicate that emotion dysregulation mechanism are associated with the presence of skin diseases.[20] The evidence also indicates that maladaptive emotion regulation strategies play an important role in psychological distress.[21-24] The evidence of empirical studies suggests that emotion regulation skills, play a role in the development, preservation and treatment of mental disorders. In addition, effective treatments that emphasize on increasing of emotion regulation skills have shown that these skills may be one of the effective mechanisms in psychological interventions.

Evidence indicates that Gross's processing model is the most prominent emotion regulation model.[22] This model consists five stages (start, situation, attention, assessment and response). According to Gross's model, every stage of the process of emotion production has a potential regulation purpose and emotion regulation skills can be applied in different parts of this process.[26] This model distinguishes between two strategies, antecedent-focused and response- focused, which are activated before and after the experience of emotion, respectively. Antecedent-focused strategies can occur in the first four stages of the process of emotion production. These four stages include situation selection, situation modification, attention deployment and cognitive change, while the antecedent-focused strategies include response modulation stage, which occur after arousing an emotion.[22]

Therefore, since in several studies (e.g.,[27]) demonstrated that reduction of stress and psychological problems can lead to the improvement of the patient's skin condition, and because of the role of emotional factors in starting, accelerating and intensifying of skin diseases, especially psoriasis, as well as the relationship between psychological distress and emotional disorders, education and intervention in the field of emotion regulation can be effective in reducing recognition, detection, processing and emotional regulation problems to reducing the duration of treatment, probability of incomplete treatment, use of health services and relapse and increasing the duration and quality of life in patients with psoriasis and vitiligo. Since, Gross's processing model[28] emphasizes on adaptive regulation strategies training, the present study was aimed to the comparison of the effectiveness of processing emotion regulation strategies training on psychological distress in patient with psoriasis and vitiligo.

Method

The present research was a quasi-experimental study. All patients were assessed 6 times by the study's instruments at pre-treatment, during treatment and 45-day follow-up. The study population comprised all patients with skin diseases who admitted to hospital and public and private centers in Tehran in the time span of May to June 2015. Among those, 3 patients with vitiligo and 3 patients with psoriasis were selected by convenient sampling. Patients were included if they met the following inclusion criteria: 1) At least two years' history of skin disease, 2) participant's informed consent in order to attending in the study, 3) aged 20-45, and 4) at least high school education. exclusion criteria were: 1) participation in any psychological intervention (at least from past 6 months until now), 2) Having a comorbid psychiatric disorder/s such as psychotic disorders, substance abuse, mental retardation, and any dire medical conditions, 3) Use of Psychiatric drugs (at least from past 3 months) and 4. Unwillingness to continue the treatment

The processing emotion regulation strategies training package based on Gross's model

In Iran, Hasani, Hatami and Ghaedniay Jahromi[29] reported the validity of processing emotion regulation strategies training package based on Gross's model.

Table 1. Sessions of the protocol based on Gross's model[29]

Session	stages	contents of Sessions
1		Explaining the intervention's logic and stages, Necessity of self-emotion regulation, Why do we need to learn these skills, What are the true views about emotions, A review about primary and secondary emotions, and All emotions help us.
2	Situation selection	Offering the emotional education: a. normal and problematic emotion, b. emotional self-awareness: 1) Psychoeducation and the introducing emotions, 2) Identification, naming and labeling emotions, 3) differentiation between different emotions, 4) Identification of emotion in physical and psychological states and 5) Success factors in emotional regulation.
3	Situation selection	Assessment of vulnerability and emotional skills of the members: 1) Self-evaluating in order to determine their emotional experiences, 2) Self-

		evaluating to identify the emotional vulnerability in person, 3) Self- evaluating to identify the self-regulatory strategies in person, 4) cognitive consequences of emotional reactions, 5) physiological consequences of emotional reactions, 6) behavioral consequences of emotional responses and relationship between those, and 7) introducing anger and many strategies to overcome it.
4	Situation modification	change in the emotion arousing situation: 1) Prevention of social isolation and avoidance using problem solving training and interpersonal skills (dialogue, assertiveness and conflict resolution)
5	Attention deployment	Change in Attention: 1) stop the rumination and worry, and 2) attention training
6	Cognitive appraisal	Change in cognitive assessment: 1) Identify the false assessments and their effects on emotions and 2) Reappraisal strategy training
7	Response modulation	Change the behavioral and physiological consequences of emotion: 1) Identify the amount of and the way of using inhibition strategy and its emotional consequences, 2) exposure, 3) emotional expression training, 4) behavior modification through changing the environmental reinforcement, and 5) catharsis training, relaxation and opposite action
8	Appraisal and application	Reappraisal and removing the barriers: 1) Evaluate the mount of achieving to the goals, 2) applying learned skills in a natural environment outside the home, and 3) Investigate and eliminate the barriers of doing homework
9		Review Sessions and training the learned skills
10		Review Sessions and training the learned skills

Instruments

Depression, Anxiety and Stress Scale (DASS). Depression, Anxiety and Stress Scale[30]is designed to assess the negative emotional states of depression, anxiety and stress (over a week). Factor analysis of the scale has confirmed the three subscales, including depression, anxiety and stress. Also, the special values of stress, depression and anxiety was about 9.07, 2.89 and 1.23, and Cronbach's alpha coefficients have also been reported 0.97, 0.92 and 0.95, respectively.[31] In the Persian version of the scale, the test-retest reliability of three factors include depression, anxiety and stress have been reported 0.8, 0.76 and 0.77, and Cronbach's alpha coefficients 0.81, 0.74 and 0.78, respectively.

Structured Clinical Interview for DSM-IV (SCID-I). In the assessment of the main psychiatric disorders (based on the definition and criteria of DSM-IV-TR), Structured Clinical Interview for DSM disorders (SCID) is a standardized comprehensive instrument which was designed for using in clinical works as well as research. The implementation of this instrument needed to the clinical judgment of the interviewer on the interviewee's answers and for this reason the interviewer should be expertise in the field of psychopathology. There are two versions of this scale: Clinical Version (SCID-I/CV) which mainly covers the psychiatric diagnoses and was designed for using in clinical settings and clinical research, and Another one which is more complete and longer version of the instrument (SCID-I / R) that covers all diagnoses and their subtypes, the severity and course of the disorder. It has sound psychometric properties.[34] Zanarini et al[35] for most of diagnosis, reported kappa coefficient greater than 0.7. Tran and Smith [36] report 0.6 kappa coefficient as inter-rater reliability of the SCID. In Iran, Sharifi et al]7] was reported an appropriate psychometric properties of the SCID. Also, in the Bakhtiary's study[38] test-retest reliability with one week interval was reported 0.95.

Procedure

6 patients (3 patients with vitiligo and 3 patients with psoriasis) who were selected according to the inclusion criteria and convenient sampling, received Individually 10 sessions of processing emotion regulation strategies training based on Gross's model. The training was presented by a clinical psychologist (according to the summarized treatment protocol, See table 1). All Patients were assessed six times (1 at baseline, 4 during the treatment and 1 at 1.5 months follow-up) by the Depression, Anxiety and Stress Scale (DASS). Also, According to the scientific literature, in order to compare the two groups, the independent- samples t test was used

Findings

Table 2 indicates demographic characteristics of patients.

Table 2. Demographic characteristics of patients

Subject	Sexuality	Age	Marital status	Education	disease	Duration of disease
1	Male	29	Single	A.D	vitiligo	3 years
2	Female	25	Married	Diploma	vitiligo	4 years
3	Female	20	Single	Diploma	vitiligo	3 years
4	Male	34	Single	A.D	psoriasis	2 years
5	Male	28	Married	A.D	psoriasis	4 years
6	Female	24	Single	B.A	psoriasis	3 years

Table 3 indicates the results of normality test of the study's variables. According to the results of the Kolmogorov-Smirnov test for normality, it can be concluded that the variables have a normal distribution (P-Value>0.05).

Table 3. Statistics related to the normality of variables

variable		**Depression**		**Anxiety**		**Stress**	
		Test statistic	Sig	Test statistic	Sig	Test statistic	**Sig**
Disease	vitiligo	0.134	0.2	0.155	0.2	0.106	**0.2**
	psoriasis	.0163	0.2	0.16	0.2	0.16	**0.2**

Table 4 indicates information related to the central and dispersion tendency, Mann-Whitney U test's Results and the means comparison of the psychological distress variable and its components.

Table 4. Comparison of the intervention's mean on psychological distress (depression, anxiety and stress) in patients with vitiligo and psoriasis

Variable	**disease**	**mean**	**Standard deviation**	**minimum**	**maximum**	**Sum of rank**	**Mean of rank**	**P-value**
Depression	vitiligo	16.61	4.73	11	26	310	17.22	0.481
	psoriasis	17.94	5.396	11	30	356	19.78	
Anxiety	vitiligo	11.56	3.148	9	22	269	14.97	0.044
	psoriasis	13.94	3.963	11	31	392	21.78	
Stress	vitiligo	19.06	5.418	9	22	307	17.06	0.424
	psoriasis	20.44	5.447	11	31	359	19.94	

According to table 4, there is no significant difference between the two groups' mean in terms of depression and stress components (P-Value>0.05). In the anxiety component, the mean of patients with vitiligo was lower than the mean for patients with psoriasis and this difference was statistically significant (P-Value<0.05).

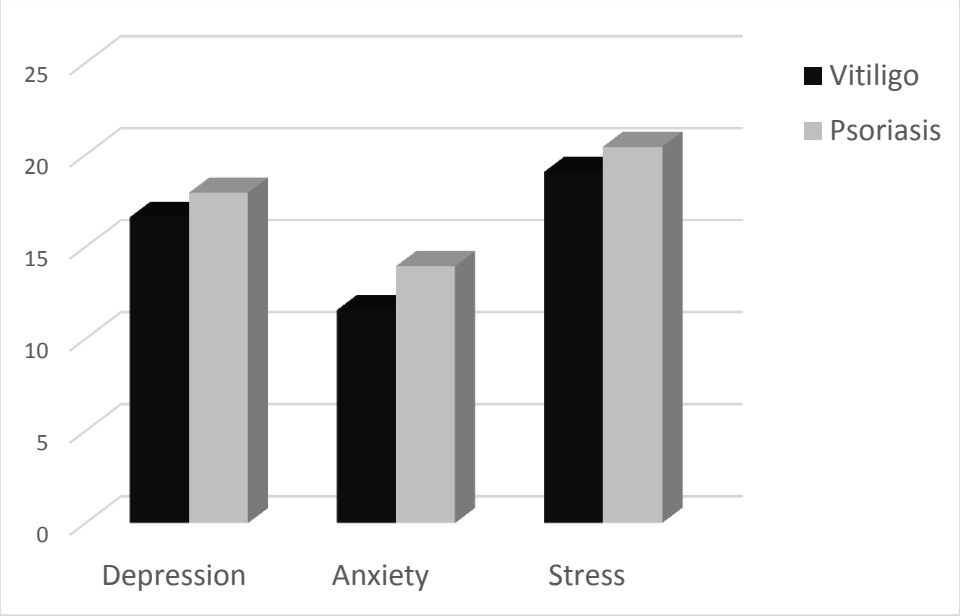

Figure 1. Comparison of the mean scores of patients with vitiligo (n = 3) and psoriasis (n = 3) in psychological distress variables (depression, anxiety and stress components)

Discussion

The results showed that there was no significant difference between the means of depression and stress components in patients with vitiligo and psoriasis. The results of this study, since processing emotion regulation strategies training lead to reduction in psychological distress, are consistent with the studies that suggest emotion regulation strategies in addition to having a relationship with psychological distress, have an important role in emotional disorders (such as depression, anxiety and stress).[23,39,40] In this regard, evidence suggests that there is a positive relationship between psychological distress and maladaptive emotion regulation strategies such as self-blame, other-blame, rumination, planning and negative relationship between psychological distress and adaptive emotion cognition regulation strategies including positive refocusing and positive reappraisal.[23] Also, the evidence has shown there is a positive relationship between the use of maladaptive emotion regulation strategies with depression's symptoms as well as inverse relationship between using adaptive emotion regulation strategies with those symptoms. The evidence of experimental studies suggests that emotion regulation skills play a role in the development, maintenance and treatment of the mental disorders. Also, effective treatments which focus on emotion regulation skills have shown that these skills may be one of the effective mechanism in psychological interventions.[25] One of the emphases of the processing emotion regulation strategies include treatment of cognitive vulnerability reduction. The reappraisal strategy training and then applying it can lead to reduction of psychological distress at high-risk situations.[40] Situations that potentially arousing emotion, do not necessarily lead to emotional responses, and then person can change the situation. The strivings related to improving the situation is considered one of the strongest forms of processing emotion regulation strategies. An opportunity for individuals can be provided in processing emotion regulation strategies which person can regulate his/her emotions without actual change of the setting.

Situations have many dimensions. Extending of attention refers to this issue that how does a person, in order to influencing his/her emotions, change his/her attention to that situation. Distraction is a technique which could be employed and include the reduction of attention to internal and external emotional stimuli by focusing on the less emotional activities and thoughts. Also distraction may include switching in internal concentration, such as when a person calling inconsistent thoughts or memories with desired emotional state.[41] Emotion regulation and especially cognitive reappraisal positive strategy lead to the reduction of negative feelings, enhancing of positive feelings as well as adaptive behavior in people.[42] Therefore, as a result of the incorrect cognitive appraisal of the situation, due to lack of information, misperceptions or irrational and false beliefs person took up his/her cognitive strategies to deal with the stressful situation. In this view, individuals thought patterns can be modified by cognitive restructuring.[43] Negative emotions and situations which developing them, lead to seeking a way in order to releasing from them. In fact, when a person is under psychological distress (including depression, anxiety and stress) an effective management of emotions will reduce the risk of distress. The ability to emotions management is caused to using of appropriate coping strategies in situations with high risk of distress.

Thus, in addition to promotion of mental health, select the efficient coping strategies in cognitive, emotional and behavioral dimensions are effective in increasing use of adaptive coping strategies.[45] Generally, evidence suggests that applying the emotion regulation training protocol for change emotion regulation strategies lead to improving of performance, and alleviate symptoms in patients with anxiety and depression disorders.[46]

Also, there is a significant differences between means of the two groups in terms of anxiety component. Skin diseases such as psoriasis are associated with considerable psychological distress as well as comorbid psychiatric disorders.[10-15] Generally, one in four of the patients has experienced considerable psychological distress.[16] Psoriasis is a chronic skin disease which has a psychosomatic aspects. Although this disease has a genetic factor, but psychosocial factors, especially psychological distress (including depression, anxiety and stress components) play a major role in clinical expression of this disease.[47] These patients complain about pruritus (84%), dry skin (80%), sleep disorders (57%), discomfort and irritation of the skin (59.7%) and pain (26%).[49] in many patients, these complications are caused to disability and psychosis.[50] Also plaques of psoriasis can cause high levels of anxiety, depression and stress in these patients,[51] and increasing the emergence of stress and anxiety in these patients.[52]In a study that was conducted on patients with psoriasis and healthy subjects, It was determined that the reason of performance differences between these patients and control group returns to severe emotional problems, such as depression and anxiety. Also, many studies [54] have demonstrated that an outbreak of anxiety symptoms has a relationship with increasing use of self-blame, rumination, catastrophizing as well as reducing use of positive reappraisal. Emotion regulation leads to emotion management through facilitating the individual's access to the coping resources. In this case, the accessibility of external support to the management of emotional arousal will increase, [44] which in turn could be considered as a reason of the significant decrease in anxiety component. Since, the experience of negative emotions, is inevitable in human's life and it is obvious that psychological stress is associated with negative emotions, [55] and stress in psoriasis patients (as a debilitating disease) is a major factor in the inability of patients, such stress can effect on quality of life, severity of the disease and response to intervention of these patients. In addition, other studies[58-59] have shown that approximately half of patients with psoriasis experience severe depression and anxiety when they understand have such disease. The necessity of controlling the disease and implementing new treatments and cares is essential.[61,62] Overall, Psychiatric and psychological interventions can help to alleviate symptoms[58] and finally improve the quality of life in these patients.[57]

Suggestions

Investigating the mood disorders such as depression, anxiety as well as stress as a predisposing, precipitating or maintaining factors in patients with psoriasis can help to planning and education to patient and important others in dealing with the psychological complications of the disease. On the other hand, recognizing these disorders and their treatment in these patients can improve their lives and even help to reduce symptoms.

Acknowledgments

We appreciate all staff of the Razi hospital as well as all participants who were attended in this study.

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