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Relation of attachment styles and cognitive emotion regulation strategies to depression in patients with chronic skin diseases

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Abstract

Skin is a vital organ for communication throughout the life cycle, so that skin disease can cause a significant psychological distress. This study aimed to assessment the relation of attachment styles and cognitive emotion regulation strategies to depression in patients with skin diseases. The 200 participants were selected using purposeful sampling among patients diagnosed with psoriasis, atopic dermatitis, and chronic idiopathic urticaria and who referred to dermatology clinics or phototherapy units of the hospitals in Mashhad. Patients who had inclusion criteria participated in the study after giving the informed consent. The participants filled out the scales of cognitive emotion regulation strategies, Collins and Read attachment styles, and hospital anxiety and depression. The results of path analysis showed a direct relation of secure attachment style to adaptive cognitive emotion regulation strategies and depression, cognitive emotion regulation strategies to depression, insecure attachment styles to maladaptive cognitive emotion regulation strategies, insecure attachment to depression, and maladaptive cognitive emotion regulation strategies to depression. Secure attachment had indirect effect on depression and insecure attachment had indirect relation to depression. These results imply that attachment styles and cognitive emotion regulation strategies in patients with skin diseases have multiple relations with depression.

Keywords: Attachment, Cognitive, Depression, Emotion, Skin

Introduction

Skin diseases affect 20-30 percent of general population in every time, while in 10 percent of cases, serious interference with daily activities will be observed [1]. These diseases are the most frequent reason for job leaving due to suffering from a disease and the most prevalent diseases among industrial workers [2].

A report by British Association of Dermatologists (BAD) in 2012 showed that in 85 percent of skin patients, mental and social aspects of disease can be considered as a main component of disease [1,3]; however, little attention is paid by family and/or friends as well as health specialists to the mental effects of skin diseases and challenges

facing patients [1].

In fact, like every other disease, skin disease can lead to wide changes and challenges with which we may not be ready to get long. Contrary to the diseases which do not change people's appearance, skin problems are visible and therefore can lead to new challenges [4].

Visibility of special diseases may attract attention in social occasions; therefore, people may feel they cannot keep their problem confidential. Moreover, due to lack of training and awareness regarding dermatology, some people may consider skin diseases contagious or related to non-compliance with health issues. Given this ignorance about skin diseases, patients who suffer these problems may find that others react negatively to their appearance or behave in an unusual manner with them [3]. As a result, these patients may experience depression which subsequently prevents their social activities such as swimming or making friends because of the possibility that their skin problems would become visible [5].

Another bitter fact is that many skin diseases do not have certain cure like other chronic diseases. The life is characterized by periods of improvements and exacerbations and patients may experience insolvency due to the lack of control over their disease [4,6].

Depression is one of the most common psychological disorders in skin patients and is probably accompanied by a wide range of skin diseases such as psoriasis, acne, chronic idiopathic hives, and atopic dermatitis [7]. It is assumed that the more intense is the disease, the more psychological impacts will have on patients; however, different factors are involved in this regard [1]. "Correct path" of research related to chronic defects and diseases includes attention to individual differences in distress and determination of key factors involved in compatibility [5].

There has been a special attention to aspects such as emotional regulation which is defined as the ability to balance positive and negative emotions in response to internal and external stimuli [8].

Regarding the type of skin disease, for example stigma [7], emotion regulation may be underlying the mechanism of relationship between stigma and psychopathology.

These strategies may be adaptive which are placed in the framework of optimism, positive concentration, positive reevaluation, and acceptance or maladaptive for example self-blame and making tragedies [9]. In fact, recent studies regarding coping with stigma have evaluated emotion regulation strategies such as cognitive reappraisal as moderators of the relationship between stigma and health [8].

Emotion regulation strategies may be adaptive (like positive reappraisal, acceptance) or maladaptive (such as self-blame or exaggeration) [10].

Another factor which seems to have a significant role in this regard is attachment style. Attachment styles are referred to internal functional models which stem in deep emotional links between mothers (care givers) and children and form individuals' behavioral responses regarding separation from loved person and reunion [11].

According to the attachment theory, emotional defense related to insecure attachment prevents emotional information processing and ceases awareness of emotions as well as decision-making about themselves and others [9].

Studying the concept of attachment in relation to skin diseases is very useful, because it explains why some people suffering from skin diseases can use intimate relations as a secure base against disease problems such as shame of appearance or sexual problems, while the others experiencing problems in relationship prefer to hide their distress [1].

Accordingly, the present study aimed to provide and evaluate a model based on the relationship between attachment styles and cognitive mechanisms of emotion regulation and depression in skin diseases being expressed in the frame of the following hypotheses:

There is a direct and indirect relationship between attachment styles and depression in skin diseases.

There is a direct relationship between cognitive mechanisms of emotion regulation and depression in skin diseases.

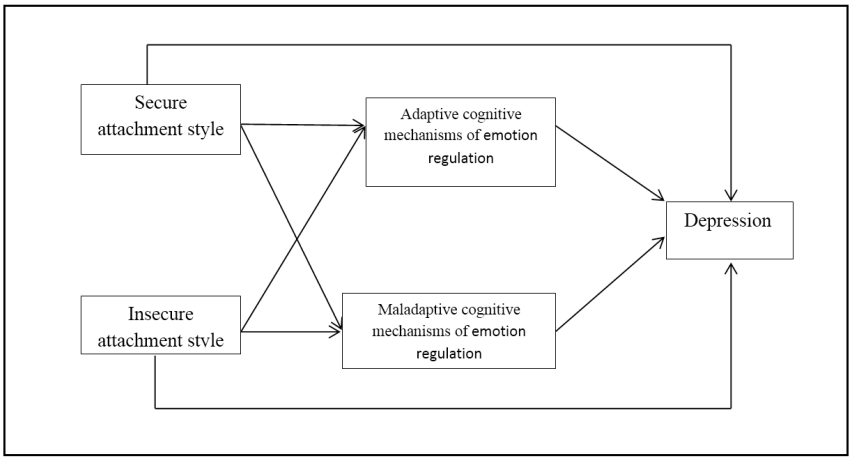

Figure 1 *Research conceptual model*

Figure 1display research conceptual model .In this model, attachment styles are considered as exogenous variables, cognitive mechanisms of emotion regulation as endogenous variables, and depression as criterion variable.

Method

This study was a correlational research. Statistical population included 14-65 years old skin patients referred to dermatology clinics and phototherapy units of Imam Reza and Ghaem hospitals in Mashhad. The study was conducted between 22 June and 22 November of 2014. Although the sample size was calculated as 168 by G-power software, 200 participants were selected for greater certainty. Sampling was done through purposeful sampling method among those patients who were eligible.

Inclusion criteria included patients diagnosed with psoriasis, hives, atopic eczema, and vitiligo by physician, minimum age of 16 and maximum age of 65, and no history of hospitalization due to skin diseases.

Exclusion criteria included accompanying conditions such as rheumatoid arthritis, heart, respiratory, and renal problems, pregnancy, diabetes, drug abuse, and severe mental disorders for which patients took medicine.

Necessary moral considerations such as explanation about objectives, confidentiality of information, and informed consent were followed.

One of the research tools employed in this study was Hospital Anxiety and Depression Scale (HADS) that includes 14 questions on presence and severity of depression and anxiety symptoms during the last week. Seven questions are associated with anxiety (questions of 13،1،4،5،8،9،12) and seven questions are related to depression (questions of 11،10،7،6،3،2،14). Each item is scored on a scale from zero to three. The maximum attainable score is 21 for each sub-scale. The cutoff score for anxiety and depression sub-scales was determined as 6.

This questionnaire targets adolescents older than 16 years up to elderly. It is a useful and brief screening tool for depression and anxiety symptoms in patients with physical problems. Its validity and reliability has been evaluated by Montazeri in Iran (α=0.78) [13-14]. In this research, depression sub-scale of the questionnaire was used. Reliability of the tool has been obtained as α = 0.72 in the present study.

Another instrument was Collins and Read Attachment Scale. This scale includes self-assessment from communication skills as well as self-description of forming attachment relations with close attachment figures. It includes 18 items which are assessed through checking a five-point Likert scale. The items of 1, 6, 8, 12, 13, and 17 measure secure attachment, items of 5, 2, 16, 14, 7, and 18 measure avoidance attachment and finally, items of 3, 4, 9, 10, 11, and 15 measure ambivalent/anxious attachment. Moreover, the items of 5, 6, 8, 16, 17, and 18 are reversely scored from 0 to 4. The scores of

6 items are summed up to obtain the total score of the relevant sub-scale.

Reliability coefficient of this survey was reported as 0.97 in Tehran on 105 girls and boys based on retest method, while its validity was reported as 0.56 [15]. Reliability of the tool was checked in the present study and gave the coefficient of 0.82 using Cronbach's alpha.

Furthermore, the questionnaire of cognitive emotion regulation styles was used. This questionnaire has been designed by Garnefski and colleagues in order to evaluate cognitive strategies which are used by an individual after experiencing threatening events or life pressures [16]. This questionnaire includes 36 statements which are answered based on a Likert scale in the range of 1 (never) to 5 (always). The scale includes 9 sub-scales each of which evaluates a specific strategy from cognitive strategies. The sub-scales include accepting the event (questions 2 and 11), reconsidering planning for the manner to deal with the event (questions 32 and 23), positive reevaluation (questions 6 and 15), getting along with perspective (Questions 25, 34) (adaptive styles), rumination (Questions 3, 12), self-blaming (questions 10 and 28), exaggeration (questions 17 and 35), and blaming others (questions 18 and 36) (maladaptive styles). It is useable for individuals over 12 years old (from both general and clinical populations). Its structural validity and reliability has been confirmed in Iran using confirmatory factor analysis, while its reliability has been reported between 0.64 and 0.82 using Cronbach's alpha for each sub-scale [17-18].

In the present study, in order to confirm reliability of each sub-scale, Cronbach's alpha was used and gave the coefficients from 0.57 to 0.80.

Statistical analysis of data was carried out using SPSS18 and Lisrel 8.5 software. The statistical tests included path analysis, correlation matrix, and fitness test of overall model using goodness of fit indices.

Results

Table 1 shows descriptive information about research sample. According to information, most participants were female and married. Moreover,patients suffering psoriasis have assigned a higher percentage of participants to themselves and in most patients the problem has been spread.

Given that path analysis is based on correlation among variables, correlation matrix of research variables is presented as below.

Table 1 *Demographic characteristics and descriptive data related to patients with diagnosis ofpsoriasis, hives, and atopic eczema*

Variables		Frequency	Percentage	SD
Gender	Female	143	71.5	0.43
	Male	57	28.5	
Marital status	Married	125	62.5	0.48
	Single	75	37.5	
Disease	Eczema	86	43	0.62
	Hives	16	8	
	Psoriasis	98	49	
Disease history	Less than 2 years	60	30	0.85
	2-5 years	50	25	
	Over 5 years	90	45	
Affected area	Body	10	5	1.11
	Hand	26	13	
	Foot	10	5	
	Sporadic	101	50.5	
	Face	53	26.5	

Table 2 *Correlation matrices of research variables*

Variables	1	2	3	4	5
1.Secure attachment	1				
2.Insecure attachment	-0.191**	1			
3.Adaptive mechanisms of emotion regulation	0.262***	-0.230	1		
4.Maladaptive mechanisms of emotion regulation	-0.126*	0.279**	-0.864*	1	
5.Depression	-0.426**	0.471**	-0.318**	0.417**	1

* p<0.05; **p<0.01

According to the data presented in Table 2, all research variables have significant relationships. Since this research aimed to investigate the mediating and predictive role of variables or estimate direct effects, indirect effects, t, and variance explained among variables in the model, path analysis was used. Table 2 represents direct effects as well as t values.

Table3 *Estimation of direct effects coefficients*

Variables	Estimations	Standardized parameters	Estimation of standard error	t
The effects of secure attachment on:				
Adaptive mechanisms of emotion regulation		0.13*	0.03	3.20
Maladaptive mechanisms of emotion regulation		0.27	0.02	2.92
Depression		0.16*	0.04	6.25
The effects of insecure attachment on:				
Adaptive mechanisms of emotion regulation		0.26	0.03	3.40
Maladaptive mechanisms of emotion regulation		0.27**	0.02	2.25
Depression		0.14**	0.05	3.49
The effects of adaptive mechanisms of emotion regulation on depression		0.16*	0.03	2.83
The effects of maladaptive mechanisms of emotion regulation on depression		0.41*	0.05	4.47

According to the data presented in Table 3, direct effect of secure attachment style on adaptive mechanisms is 0.13 which is significant regarding t=3.20 and p<0.05. Moreover, direct effect of secure attachment style on depression equals 0.16 (t=2.83, p<0.05) which is significant. Direct effect of insecure attachment style on maladaptive mechanisms of emotion regulation is 0.27 (t=2.25, p<0.01), while direct effect of insecure attachment style on depression is 0.14 (t=3.49, p<0.01) and direct effect of emotion regulation maladaptive mechanisms on depression equals 0.41 (t=4.47, p<0.05) which all are significant.

Table 4 *Estimation of indirect effects coefficients*

Variables	Estimations	Standardized parameters	Estimation of standard error	t
Indirect effects of secure attachment on depression		0.02*	0.01	2.36
Indirect effects of insecure attachment on depression		0.07**	0.02	5.41

According to Table 4, indirect effect of secure attachment on depression is 0.02 which is significant with regard to t=2.36 and p<0.05. Insecure attachment has also an indirect

relationship with depression (0.07) which is significant regarding t=5.41 and p<0.01.

Table 5 *Features indicating goodness of model fitness*

Feature	Estimation
Ratio of chi-square to degree of freedom (X2/df)	2.22
P-value	0.06
Comparative fitness indicator (CFI)	0.99
Goodness of fitness indicator (GFI)	0.99
Adjusted goodness of fitness indicator (AGFI)	0.96
Root mean square error of approximation (RMSEA)	0.05

Given the features of goodness of model fitness in Table 5, fitness of depression predictive model is at favorable level. Therefore, it can be concluded that conceptual model of the research is consistent with research population.

Discussion

In the present research, the relation of attachment styles and cognitive mechanisms of emotion regulation to depression was investigated among the patients with a range of skin itch disorders with psychosomatic components including psoriasis, atopic dermatitis, and chronic idiopathic urticaria.

It has been evident that these diseases are mainly psychosomatic since emotional stress affects disease period or exacerbates it [19].

The results of the research confirm the fitness of proposed model and also confirm research hypotheses regarding multi-dimensional relation of attachment styles and cognitive mechanisms of emotion regulation to depression in patients suffering from chronic skin diseases.

In the following, the obtained results are explained. The first hypothesis in this study included direct and indirect relationship of attachment styles and depression in patients with chronic skin disease. In this regard, the findings of the present study indicated a direct significant relationship between insecure attachment style and depression. Moreover, there was also an indirect relationship between secure attachment style and depression through cognitive mechanisms of emotion regulation.

Based on our knowledge, no empirical study has directly investigated the relationship between secure attachment styles and depression in patients experiencing skin diseases so far. However, some studies show that lack of attachment security is more evident in patient population than healthy ones. For example, a study by Picardi, Lega, and Tarolla indicated that attachment avoidance is more prevalent in psoriasis patients compared to patients with other skin diseases [20]. Moreover, a relationship between insecure attachment and skin diseases has been reports in vitiligo as well as alopecia areata [21].

Previous studies on patients with other chronic diseases show that attachment indicators affect the individual's compatibility with medical illness [22], bio-psycho-social responses [9] as well as improvement process and patient's quality of life [23].

Kellet recognizes patients' response to appearance defects as a reflection to a special kind of physical embarrassment associated with skin where all attention is directed toward skin and its relative attractiveness. Embarrassment can be of skin "specific" and it can be extended in relation to self-schemas beliefs about oneself. In the embarrassment specific of skin disease, emphasis is on the disease. Other individual aspects are not affected and people can react properly in different life occasions. In secure attachment style, patients believe in their identity and experience "specific" embarrassment. In this concept, patients accept disease and react logically to its physical and mental outcomes. But extended embarrassment in insecure attachment is wider and merges with other schemas of embarrassment

leading to internal experience of self-hatred which includes negative self-confidence, social stigma, and inappropriate comparison with others [24]. These factors provide the context of the patient's depression.

On the other hand, recent conceptualizations in the framework of attachment explain individual differences in emotion regulation. Attachment styles also affect management of attention to stressful situation, information processing, and access to social coping resources. These differences in attachment styles can justify extreme processing of emotions by ambivalent people or isolation and disconnection in avoidant individuals [8].

Regarding the second hypothesis, the results indicated a direct effect of cognitive mechanisms of emotion regulation on depression. It should be noted that no empirical research has been done regarding the relationship between strategies of emotion cognitive control and depression in skin patients so far. However, the results of this study are consistent with those of studies conducted on samples suffering other chronic diseases. For example, the results of a study carried out by Schroevers and Garnefski show that patients suffering from cancer use maladaptive strategies such as obsessive compulsive behavior and exaggeration more often and as a result, suffer from more negative emotions and depression [25]. On the other hand, the obtained result on a positive relationship between quality of life and positive emotion regulation strategies is consistent with the results of various studies [26-28].

These studies indicated that people who use adaptive strategies, when faced stressful events, report less depression and as a result, higher quality of life. In fact, negative relationship between adaptive strategies and depression is because individuals who use these strategies evaluate negative events with a different perspective and pay attention to positive aspects and probable benefits of the event in long-term; consequently, they will experience less discomfort and stress and will be able to get along with the event easier. Accordingly, Garnefski and Kraaij have introduced inefficient emotion cognitive regulation strategies as the most reliable predictors of depression [10].

It should be noted that a cross sectional study does not allow causal interpretation of the results. Longitudinal, causal-comparative, and empirical studies are needed in order to obtain more information about causal relationships between psychological factors proposed in the present study and depression in skin patients.

Although studies have confirmed sufficient psychometric characteristics of the tools, investigation of validity of patients' responses depends on their perception and interpretation of the questions. It is recommended that the effect of sexual differences and disease intensity be investigated along with abovementioned factors in future studies.

Conclusion

Findings of the present study can help healthcare staff obtain more information about influencing factors in quality of life and specially depression in skin patients and organize their activities in order to improve the level of health and quality of life in these patients. Since the present study showed a relation of strategies of emotion cognitive control and attachment styles to depression in skin patients, it can be said that attachment style and emotion regulation can play important and determining role in psychological well-being. These factors also play an important role in coping with stressful events of life, so that patients' quality of life is affected consequently.

The findings could help society’s health staff to further understanding of factors affecting the quality of life, especially with regard to depression, in skin patients and organize their activities to promote health and improve quality of life.

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Contribution

Study design: RL
Data collection and analysis: RL, AA, VAF, MM
Manuscript preparation: RL, AA, MT

Conflict of Interest

"The authors declare that they have no competing interests."

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