

Alexithymia in vitiligo patients: a case-control study

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Background: Vitiligo is a common pigmentary disorder affecting mental health, and alexithymia is a trait associated with multiple cutaneous disorders. This study was conducted to compare vitiligo patients and controls as concerns alexithymia.

Methods: Fifty-two patients with vitiligo and 61 non-vitiligo individuals were recruited. They completed Toronto alexithymia score-20 questionnaire. Independent sample t-test and Chi-square tests were used for comparing numerical and categorical variables, respectively. P value ≤ 0.05 was considered statistically significant.

Results: Twenty vitiligo patients were alexithymic, while 14 were borderline alexithymic. Thirteen, 16, and 32 control people were alexithymic, borderline alexithymic and non-alexithymic, respectively (p value: 0.096). Although alexithymia and borderline alexithymia were not significantly more prevalent in vitiligo patients (p value: 0.57), they were more likely to be high alexithymic (TAS ≥ 61) compared with the control group (p value: 0.02). Comparisons with the controls, patients obtained significantly higher scores associated with subscales of difficulty in identifying feelings (DIF) and difficulty in describing feelings (DDF) (p value: 0.002 and 0.02 respectively). Patients with lower education obtained higher alexithymia scores (p value: 0.009).

Conclusion: High alexithymia and higher DIF and DDF subscales are more prevalent in vitiligo patients in comparison with control population. Patients with lower levels of education are more alexithymic.

Keywords: alexithymia, vitiligo, psychology, comorbidity

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INTRODUCTION

More and more attention is paid to assess the psychological morbidity of skin disorders in literature, and many experts have agreed with the association of skin diseases with psychological illness and distress¹.

Vitiligo is a common acquired pigmentary disorder that manifests as hypopigmented or depigmented macules. Its prevalence varies in different populations, but it is estimated that about 0.5-2% of the general population are affected by vitiligo. The exact etiology of this multifactorial

disease is yet to be fully understood. Both genetics and environmental factors play major roles, but vitiligo is generally considered as an autoimmune disease with skin homing T lymphocytes destroying melanocytes, and resulting in depigmentation¹⁻⁴.

Alexithymia (a personality trait) refers to individuals who cannot identify or put their emotions into words (verbalize). About 10-13% of the general population is estimated to be alexithymic, exceeding the prevalence of major depressive disorders. The literal translation of alexithymia is "no words for emotions". Sifneos entitled the deficiency in understanding, processing

and describing emotions as alexithymia. Among the characteristics of alexithymia are diminished symbolic thought, and confined fantasy life. Moreover, cognitive reasoning is oriented externally and patients cannot differentiate between feelings and somatic sensations, and are inefficient regarding intuition and empathy. Research has recently revealed that alexithymia acts as a triggering factor which can predispose people to certain disorders⁵⁻⁷.

Changes in sympathetic activity, immunity and brain activity have been reported in alexithymic people, along with impaired immune system response. Considering that immune system and neuroendocrine axis have a role in the pathogenesis of vitiligo, alexithymia may be a predisposing or exacerbating factor. Accordingly, we conducted this case-control study to compare the prevalence of alexithymia in vitiligo patients and healthy individuals^{6,7}.

MATERIALS AND METHODS

The sample size was determined based on

$$\frac{2\sigma^2 \left(\frac{z_\alpha + z_\beta}{2} \right)^2}{(\mu_1 - \mu_2)^2}$$

formula, where $\alpha = 0.05$, and $1-\beta = 0.8$. In addition, mean and standard deviation of the total alexithymia score in case and control groups, extracted from similar previous studies, were considered as μ_1 , μ_2 and σ . Based on the formula, the sample size was 63 in each case and control group. We included patients with generalized vitiligo who received phototherapy at our teaching hospital phototherapy center. Further included were patients and control people of 18 years or older, with at least elementary school education and consent to fill out the validated Persian version of Toronto Alexithymia Scale (TAS-20) questionnaire. The study protocol was approved by local ethical committee (ethical code: IR.sums.med.rec.1396.s375). TAS, a questionnaire with 20 items reported by participants, assesses three scales compatible with alexithymia impaired fields, i.e. difficulty in identifying feelings (DIF), difficulty in describing feelings (DDF), and externally-oriented thinking (EOT). A 5-point Likert scale was used to rate each item (1 = strongly disagree and 5 = strongly

agree), and 5 items were negatively keyed. The sum of responses to the 20 items resulted in the total alexithymia score. The score ≥ 61 was considered as alexithymic, while ≤ 51 was regarded as non-alexithymic. The ones who attained scores from 52 to 60 were labelled intermediate (or possible) alexithymia. The Persian version of Toronto Alexithymia Scale (TAS-20) questionnaire was validated in a previous study⁸.

The control group included healthy caregivers of patients in the medical wards of a teaching hospital that had neither vitiligo nor other medical and psychological problems and filled out the TAS-20 questionnaire.

The exclusion criteria were people who had any known psychiatric or physical disorders (other than vitiligo in the patients group) and the ones taking destructive medication or substances (including illegal drugs or alcohol). In order to compare the case and control groups, independent sample t-test and Chi-square tests were used for numerical and categorical variables, respectively. P-value < 0.05 was considered as significant.

RESULTS

Fifty-two participants in the vitiligo group and 61 healthy controls returned the filled questionnaire. The two groups were matched in sex (chi square test, p value: 0.35), age (T-test, p value: 0.63) and level of education (chi square test, p value: 0.165). 52% of the patients in the case group were females and 48% were males with a mean age of 38 ± 13 years. In the control population, 60.7% were females and others were male. Twenty patients (38%) with vitiligo were alexithymic, 14 patients (27%) were borderline and 18 patients (35%) had no alexithymia. Sixteen people (26%) were considered as borderline alexithymic, and the rest (53%) were non-alexithymic (p value: 0.096). Although alexithymia and borderline alexithymia were not significantly more prevalent in vitiligo patients (p value: 0.57), they were more bound to be high alexithymic (TAS ≥ 61) than the controls (p value: 0.02).

Table 1 compares the alexithymia mean score of subscales and the total score in vitiligo and control groups.

Individuals with a lower level of education (high school or lower) had a significantly higher

Table 1. The comparison of alexithymia (TAS-20) mean score of subscales and total score in the vitiligo patients and controls. ($P < 0.05$)

Groups	Subscales			
	DIF*	DDF*	EOT*	Total
Vitiligo	20.4	14.62	21.27	55.81
Control	16.23	12.77	21.07	50.08
P value	0.002	0.02	0.8	0.013

*DIF: difficulty in identifying feelings, DDF: difficulty in describing feelings and EOT: externally-oriented thinking

total score compared to educated individuals (high school or higher) (55.78 ± 11.25 vs 49.81 ± 12.68 ; p -value = 0.009).

Age and sex did not affect alexithymic score in either groups (p value: 0.44, and 0.34, respectively).

DISCUSSION

The psychological impact of diseases in dermatology is a new trend that is being increasingly studied. Skin diseases and their psychological aspects may be related in different ways: (1) cutaneous sign is a presentation of a primary psychological disorder, (2) psychological disorder as a consequence of skin disease, (3) both dermatological disease, and psychological factors interacting with each, entailing symptoms and diseases.

Vitiligo patients have been frequently investigated for psychological comorbidities. The most common psychiatric disorders in vitiligo patients were depression and anxiety. In a study in India, psychiatric morbidity was detected in 25% of the vitiligo patients. However, higher and lower rates (35% and 16%) have also been reported in other studies⁹⁻¹¹.

Alexithymia is considered as a triggering and predisposing factor for other psychological and medical diseases. This trait has been investigated in various skin diseases, including seborrheic dermatitis, psychogenic excoriation, acne vulgaris, psoriasis, alopecia areata and vitiligo with controversial results at least regarding psoriasis and alopecia areata^{6,7,12-15}.

In contrast to Picardi *et al.*¹⁶ who reported 68% of vitiligo patients as alexithymic and borderline alexithymic, our study detected alexithymia (including borderline cases) in about 65% of vitiligo patients, not significantly more prevalent than healthy controls (47%). Instead, we found more vitiligo patients with higher alexithymia scores ($TAS \geq 61$) than healthy controls; Picardi *et al.*¹⁶

further reported that patients tended to have only higher EOT scores, yet the present cases were significantly different from the controls merely in DIF and DOF, and not EOT.

Another study assessing alexithymia in different dermatologic patients in Iran reported alexithymia in 46.7% of vitiligo patients which was significantly higher than controls. However, no report was mentioned regarding alexithymia subscales¹⁷.

Lower rates of alexithymia (46% definite and probable alexithymia) were reported by Sampogna *et al.*¹⁸.

Picardi *et al.*¹⁶ concluded that alexithymia increases susceptibility to vitiligo alongside insecure attachment and poor social support.

Several studies have assessed the relationship between education and alexithymia^{15,19,20}. Sellami *et al.*¹⁵ did not observe any significant differences in the educational level between alexithymic and non-alexithymic persons, which is in accordance with the current study. We detected higher alexithymia total score in lower educated people (which is comparable to other studies^{19,20}.)

Matilla *et al.*²⁰ reported a gradual increase in the frequency of alexithymia with the increase in age. Gender difference in alexithymia is a matter of controversy⁷. In our case, age and sex were not different in alexithymic and nonalexithymic individuals.

People suffering from alexithymia are unable to properly handle distressing emotions which may cause disturbed autonomic and neuroendocrine responses, and, consequently, various somatic disorders⁷.

Alexithymia can change sympathetic activity, immunity and brain activity, and lead to immune system dysfunction. There is research pointing to the more sympathetic activity, higher heart rate, higher electrical activity, and lower oxygen consumption in alexithymic people. Although alexithymic patients may not express their emotional distress, chronic stress conditions may result in

physiologic disorders. It has been shown that highly alexithymic men have less cytotoxic natural killer cells in comparison to non-alexithymics. Alexithymia has been found to be associated with T-helper-2 (Th-2) upregulation and T-helper-1 (Th-1) impairment. Given the importance of the immune system and neuroendocrine axis in the pathogenesis of vitiligo, alexithymia may be either a triggering or an exacerbating factor⁷.

Alexithymia is shown to be strongly associated with depression, itself a confounding factor with regards to alexithymia^{20,21}. Therefore, the fact that no evaluation was made on patients and controls concerning depression may be a limitation of our study.

This study proved that high alexithymia is more prevalent in patients with vitiligo than the control population. Vitiligo patients had difficulty in feeling and describing their emotion, but not in externally-oriented thinking.

Considering that the emotional state of patients can affect their management, detection and treatment of alexithymia can play an important role in the management of vitiligo.

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Conflict of Interest: None declared.

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