

## Prevalence and Associated Factors of Alexithymia in Patients with Hidradenitis Suppurativa: A Cross-sectional Study

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Hidradenitis suppurativa (HS) is a chronic skin condition that negatively affects patients' mental health and quality of life (QoL), resulting in higher risk of developing various psychiatric and psychological conditions. Stigmatization, social disorders, anxiety and depression have been reported as factors associated with HS (1, 2).

Alexithymia, a multidimensional psychological construct characterized by impairment in identifying, distinguishing and describing, naming and expressing emotions to others, could be linked with HS (3). People with alexithymia demonstrate externally oriented thinking and deficiency in emotional communication. Such individuals may tend to focus their attention externally, to the skin (4). In addition, alexithymia hinders the doctor-patient relationship and can be considered a negative prognostic factor inhibiting clinical improvement (5).

The subject of alexithymia in HS has attracted the attention of some researchers. Two recent studies on HS observed a high prevalence of alexithymia among this group of patients (44.4–61.6%) (6, 7). However, both studies utilized the Twenty-Item Toronto Alexithymia Scale (TAS-20) questionnaire for this purpose. The current study, for the first time, used the Bermond-Vorst Alexithymia Questionnaire (BVAQ), which provides an opportunity to assess alexithymia in a more comprehensive manner, distinguishing its individual components (fantasizing, identifying, analysis, verbalizing, emotionalizing).

### MATERIALS AND METHODS

The study group comprised 100 adult outpatients diagnosed with HS, visiting the Department of Dermatology, Venereology and Allergology in Wrocław from January 2019 to October 2020. The control group comprised 110 healthy subjects, randomly and voluntarily recruited from healthy persons, matched to the study group with regard to age, sex and educational level during the same time period. None of the controls had a history of chronic skin disease (Table S1<sup>†</sup>). The study was granted ethics approval by the institutional ethics committee of Wrocław Medical University (KB-352/2019).

The severity of HS was assessed by 3 experts in the field of HS (LM, JCS, AG) during clinical examination, using the following scales: Hurley staging, the Modified Hidradenitis Suppurativa Score (HSS), and the International Hidradenitis Suppurativa Severity Score System (IHS4).

Alexithymia was assessed by the BVAQ in Polish adaptation by Maruszewski & Ścigala (8, 9). This self-administered psycho-

metric instrument consists of 40 items and 5 subscales. BVAQ scores range from 40 to 200 points. The following validated cut-off values were considered: score  $\leq 70$  = absence of alexithymia; 71–110 = possible (borderline) alexithymia; and  $> 110$  = presence of alexithymia. The questionnaire takes into account the emotional aspects of alexithymia, describing its 5 factors: the ability to fantasize (fantasizing), the ability to identify emotions (identifying), seeking an explanation of emotional reactions (analysis), the ability to describe and/or communicate about the emotions (verbalizing) and the ability to stimulate emotions (emotionalizing) (8). Finally, all patients with HS fulfilled the Dermatology Life Quality Index (DLQI), which allows the extent to which skin lesions affect the patients' QoL to be estimated.

### Statistical analysis

Statistical analysis of the results obtained was performed with the use of Statistica 13.3 (StatSoft [Europe] GmbH, Hamburg, Germany) software. Due to non-parametric distribution, quantitative variables were evaluated using the Mann-Whitney *U* test and Spearman's rank correlation test. For qualitative data, the  $\chi^2$  test was used. All analyses were performed as 2-sided tests with a significance level of 5%.

### RESULTS

The study group comprised 59 males and 41 females, age range 18–59 years (mean  $\pm$  standard deviation (SD)  $34.0 \pm 12.2$  years). The control group included 68 males and 42 females, age range 19–63 years ( $38.9 \pm 13.1$  years) (Table S1<sup>†</sup>).

The total BVAQ scores were significantly higher in the HS patient group than in the control group ( $p < 0.0001$ ), with mean  $\pm$  SD scores  $106.6 \pm 19.2$  points and  $94.9 \pm 17.0$  points, respectively. According to the cut-offs the prevalence of alexithymia in the HS patient cohort was also significantly higher compared with the healthy controls (41.0% vs 25.5%,  $p = 0.04$ ) (odds ratio 2.04; 95% CI 1.13–3.36) (Table SIII<sup>†</sup>). None of the HS severity scales (Hurley stage, HSS, IHS4) or DLQI correlated significantly with the total BVAQ scores. However, significantly higher total BVAQ values were found in patients with HS with smoking addiction ( $p < 0.05$ ). There were no significant differences between sexes in obtained total BVAQ scores in both, study and control group ( $p = 0.15$ ;  $p = 0.45$ , respectively).

HS patients and healthy control subjects differed on the verbalizing ( $p < 0.0001$ ), fantasizing ( $p < 0.01$ ) and analysing ( $p < 0.0001$ ) subscales, obtaining statistically significantly higher mean values for patients with HS in these subscales (Table SIII<sup>†</sup>). Moreover, with regard

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to verbalizing and fantasizing subscales, patients with more severe HS (according only to the Hurley staging) had significantly more impaired ability to fantasize and describe emotions ( $p=0.04$ ;  $p=0.01$ , respectively). In addition, males had significantly higher scores than females in the emotionalizing subscale ( $p=0.001$ ). No differences in BVAQ subscales scores were observed between males and females among the healthy controls. For identifying, emotionalizing and analysing, subjects with HS who reported smoking had significantly higher scores than non-smokers ( $p<0.03$ ;  $p<0.01$ ;  $p<0.04$ , respectively). None of the BVAQ subscales were impacted by smoking among controls. Finally, no significant associations were observed between the presence of alexithymia or BVAQ scores and pain, BMI, obesity, sociodemographic data in both study and control groups (detailed data not shown).

## DISCUSSION

This study found that the prevalence of alexithymia was more frequent among patients with HS compared with healthy controls. It seems that alexithymia may be considered as a psychological comorbidity of HS. In the literature, there are 2 different studies of alexithymia in HS, both assessed with the TAS-20. When comparing results obtained in previous studies, despite different questionnaires, the prevalence of alexithymia is similar (44.4–61.6%) (6, 7). Moreover, alexithymia was also assessed in other chronic inflammatory dermatoses. In patients with psoriasis the prevalence of alexithymia was 24.8% (10), whereas a similar percentage was observed in patients with atopic dermatitis (27.7%) (11). The inclusion of emotionalizing and fantasizing in BVAQ is a distinguishing factor between BVAQ and the commonly used TAS-20 (12). Our study is the first study to use a more comprehensive definition of alexithymia and carefully analyse its 5 basic factors, pointing out that verbalizing, fantasizing and analysing are mostly impaired in patients with HS. The importance of recognizing elements of emotional alexithymia is indicated by the fact that fantasizing was significantly decreased in patients with HS. Moreover, its degree of impairment increased with the progression and severity of the disease. In addition, men with HS, by achieving higher scores on the emotionalizing subscale, showed lower emotional reactivity. As a result, dermatologists should be encouraged to use the BVAQ in clinical practice in order to identify people with alexithymia. Lack of early identification of alexithymia may lead to decreased compliance with following the medical advice, ultimately resulting in worse health outcomes (13).

All of the above-mentioned aspects imply the need to pay particular attention to the emotional sphere of patients, while looking for new therapeutic approaches to the treatment of HS. A holistic approach to the treatment of patients with HS, taking into consideration not

only conventional methods in the form of medical and surgical therapy (14), but also supportive psychotherapy, may control the disease, ease pain and slow outbreaks. Norman et al. (15) showed a statistically significant effect of mindfulness-based interventions in reducing alexithymia. Expanding psychological care with unconventional methods, such as meditation and mindfulness, may significantly improve patients' overall well-being and QoL, and thereby extending the available range of therapies.

The single-centre, cross-sectional nature of the study and the use of self-report scales constitute a limitation of these findings.

*The authors have no conflicts of interest to declare.*

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