

Assessment of the anxiety and depression among patients with idiopathic pruritus ani

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Adv Dermatol Allergol 2021; XXXVIII (4): 689–693

DOI: <https://doi.org/10.5114/ada.2021.108906>

Abstract

Introduction: Pruritus ani is an unpleasant sensation that leads to scratching of the skin around the anus. It is a common symptom due to many systemic, dermatological, and proctological conditions. In the absence of evident organic origin of a disease, pruritus may be related to mental disorders as well as personality disorders.

Aim: To assess the influence of pruritus on anxiety and depression in these patients.

Material and methods: The study involved 60 patients complaining of persistent pruritus ani. The study included people in which pruritus for organic reasons was ruled out. Tests were carried out to assess the level of depression and anxiety disorders. In addition, patients were asked to fill in the Questionnaire for the Descriptive Assessment of Pruritus and the 4-Item Itch Questionnaire by prof. Jacek Szepietowski.

Results: The cause of pruritus ani in the study groups has been shown to have a significant influence on the level of depressive symptoms. There was no such relationship for anxiety disorders. In the study group, there was no correlation of depressive-anxiety symptoms with the level of pruritus intensity and the frequency of pruritus.

Conclusions: The presented data reveal the negative effect of pruritus ani on the psychological functioning of patients. Pruritus ani is characterized by moderate intensity of pruritus, but has a significant influence on the aggravation of depressive symptoms. It is important to look for the causes of this symptom, which can help to eliminate its intensity, improve the patients' mood, and thus improve their quality of life.

Key words: pruritus ani, anxiety-depressive disorders, psychogenic pruritus.

Introduction

The term pruritus ani (PA) describes all the conditions which result in itching and burning of the skin in the anogenital area. It is a common symptom occurring in the course of diseases treated in dermatological, proctological, and psychiatric practice. This unpleasant sensation, which leads to scratching of the anal area, can occur in any age group – it is found four times more often in men, most often aged 30 to 70. The exact frequency of pruritus ani occurrence is not fully known, but varies from 1% to 5% in the general population [1]. The diversity of PA causes led to its classification into primary pruritus (the so-called idiopathic pruritus) and secondary pruritus (related to a coexisting condition) [2]. In cases where the causative agent cannot be identified, pruritus ani is considered idiopathic. The incidence of pruritus ani varies. Some researchers indicate about 90% of cases, whereas other authors reveal an occurrence of 25% [3, 4]. In the absence of evident organic origin of the con-

dition, pruritus can be related to mental disorders – it is the so-called psychogenic pruritus. According to the proposal of the French Psychodermatology Group, psychogenic pruritus is defined as a pruritic disease in which pruritus remains the main symptom and psychological factors play a crucial role in inducing, aggravating, and sustaining the symptom. Psychogenic pruritus can be generalized or localized (in this case, the most common is the anogenital area). It frequently affects nervous and depressive people. Pruritus may be intensified by stressful situations at work or in personal life (e.g. homosexuality). No direct relationship has been revealed between a specific psychological trait and the occurrence of pruritus ani. Manic-depressive disorders, anxiety states, and hypochondria are more common in patients suffering from anogenital pruritus. Exceptionally, this pruritus is an example of converting and transferring negative emotions into the anal area. However, conflictual situations and personality disorders rather aggravate pruritus than constitute its direct cause [5].

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Received: 26.06.2019, **accepted:** 27.08.2019.

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Anxiety-depressive disorders observed in patients with pruritus ani

Chronic pruritus exerts a negative influence on the psychological well-being of patients. People suffering from chronic pruritus have lower self-esteem, more often present symptoms of obsessive-compulsive disorders, and have problems with coping with aggression [6]. Colloquially, in a social sense, the word *depression* is used to mean any state of sadness and dejection, irrespective of the cause of this mental state. Clinically, in order to diagnose a patient with depression, regardless of its severity, certain diagnostic criteria (time and symptom ones) must be met, as outlined in the ICD-10 or/and DSM-5 classification consulted by a researcher [7, 8].

Depression occurring in patients with dermatological diseases may be of two types. Apart from the assessment of the patient's mental state, a proper diagnosis requires a thoroughly taken medical history that will make it possible to determine whether the symptoms (e.g. pruritus) are a manifestation of the primary depressive disorder or whether they constitute a secondary disorder related to a dermatological (somatic) disease, reaction to stress or the use of psychoactive substances. What symptoms indicate the primary type of depression?

- Lack of emotional reactivity (low mood independent of current events which were previously found enjoyable).
- Aggravation of depressive symptoms in the mornings, a slightly better state of mind over time.
- Either a pronounced slowing-down of movement or psychomotor agitation.
- Early-morning awakening.
- Loss of appetite with weight loss and anhedonia.

Patients present symptoms which are somatic "masks" of depression: abdominal pain, pruritus etc., which may sometimes lead to long-term and multicentre diagnostics, which in most cases do not confirm problems of organic nature [9, 10].

Depressive disorders in patients with dermatological diseases may have the character of adjustment disorders that occur in reaction to a stressor. These disorders can be manifested by a variety of emotional and behavioural symptoms i.e. excessive worrying, anxiety, low or dysphoric mood, and a sense of harm. They usually appear within a month after the onset of the stressor (a stressful event, a life change). The stressor is an important factor triggering these disorders, but the patient's individual sensitivity is also very important together with the patient's susceptibility to stress usually associated with his or her personality traits or personality disorder.

Anxiety is an unpleasant emotional state dominated by a strong sense of danger, of an alarming change stemming from an unknown, unreal source. The sense of danger is accompanied by a number of symptoms: psychological arousal (e.g. irritability, difficulty falling asleep, difficulty concentrating), motor agitation (increased muscle tension, trembling of the limbs) or autonomic agita-

tion (excessive sweating, tachycardia, dizziness, dry mucous membranes etc.).

Isolated anxiety states related to certain stimuli are defined as specific phobias (depending on the type of the stimulus) or social phobias (depending on social situations). Patients often report the fear of blushing or of behaving in an embarrassing way. They usually assess their anxiety as excessive and stronger than in other people in similar situations. The experience of a sudden intense anxiety (panic) in an unexpected and recurrent manner as well as the persistent fear of another attack characterize panic disorder.

If an anxiety disorder is not paroxysmal or is not expressed in any particular phobia and the patient exhibits excessive worries and fears for most of the time (over 6 months), we are dealing with generalized anxiety disorders. Such patients feel constant tension and report many somatic conditions [11].

There is more and more talk about the interaction between emotions and physical functioning. Certain mental disorders occur in a somatic form – the patient reports skin problems which do not result from a skin disease. Their occurrence may be related to stressful situations or the patient's problems. An urge to scratch is often observed in these patients in situations of increased fear, tension or anxiety. Sometimes skin problems, including psychogenic pruritus, may be a consequence of depressive or anxiety disorders.

Material and methods

The study included patients aged 25–77 with pruritus ani lasting over 6 weeks. The study included 60 people – 24 women and 36 men. The cause of pruritus ani was other than a proctological disorder, which was each time confirmed by rectoscopy. Patients diagnosed with mental disorders, addiction to psychoactive substances or serious somatic and/or neurological diseases which could significantly influence their mental state were not qualified for the study. The qualified patients did not use any therapy which could affect at least one of the assessed parameters.

Each patient underwent laboratory tests including: morphology with peripheral blood smear, bilirubin, aspartate aminotransferase (AST), alanine aminotransferase (ALT), glucose level, urinalysis, examination of faeces for parasites including EIA for *G. lamblia*, and bacteriological and mycological examination of skin in the anal area.

The qualified patients were given standardized scales and questionnaires to fill in on their own at home:

- 4-Item Itch Questionnaire (by prof. Jacek Szepietowski) (4IIQ),
- Questionnaire for the Descriptive Assessment of Pruritus,
- State-Trait Anxiety Inventory (STAI),
- Beck Depression Inventory-II (BDI-II).

Results

More than a half of all patients declared subjective low mood. In the study group, a subjective assessment of the mental state was carried out (question 12, Questionnaire for the Descriptive Assessment of Pruritus) – low mood proved significant, especially in the group with allergic contact dermatitis (ACD).

Patients with allergic contact dermatitis declared statistically significant aggravation of depressive symptoms in both subjective and objective assessment. The analysis of the relationship between the ACD occurrence as the cause of pruritus and the level of depressive and anxiety symptoms was aimed at checking whether the cause of pruritus ani has an influence on the level of depressive and anxiety symptoms in the studied group of patients. It was carried out, taking into consideration the most numerous groups i.e. patients with allergic contact dermatitis and idiopathic pruritus ani. In the group diagnosed with allergic contact dermatitis, a statistically significant aggravation of depressive symptoms was observed ($p = 0.034$).

In patients with idiopathic pruritus ani, the level of depressive symptoms was aggravated only in their subjective assessment. The analysis of the relationship between the IPA occurrence as the cause of pruritus ani and the level of depressive and anxiety symptoms showed differentiation of the STAI X1 results in both groups. In the case of STAI X2 $p > 0.05$, but lower than 0.1, so we can speak of a “tendency” towards an uneven differentiation of results. In the case of the *t*-Student test for the STAI X1 variable $p > 0.05$, but lower than 0.1, so we can speak of a “tendency” towards differences in mean values (mean for the IPA group is lower). In the study group, there is no difference in the results for the BDI-II variable ($p = 0.150$). In both groups, the level of anxiety disorders was of no significance. A statistically significant difference in individual psychological parameters concerning the cause of pruritus occurred only in terms of depressive symptoms between allergic contact dermatitis and idiopathic pruritus ani. In the case of anxiety symptoms, a tendency can be observed towards statistically significant differences in terms of anxiety as a state. No statistically significant difference was revealed for both STAI X1 (L-state) and STAI X2 (L-state). In the case of the *t*-Student test for the STAI X1 variable $p > 0.05$, but lower than 0.1, so we can speak of a “tendency” towards differences in mean values (mean for the ACD group is higher).

The results did not show any influence of the duration of the reported symptoms on the level of anxiety and depression in the whole group of patients. Only a weak and statistically insignificant correlation was found for patients with idiopathic pruritus ani, where the severity of depressive-anxiety symptoms increased slightly with the increase in disease duration. In the analysis of the relationship between disease duration and the level of anxiety and depression, the study considered patients

who had been ill for as long as 5 years. To measure the relationship between symptoms duration and the BECK scale, STAI X1 and STAI X2, the Pearson correlation coefficient (r) was used.

In the studied group of patients, there was a weak positive correlation between the increase of depressive symptoms and the increase of pruritus intensity both in the VAS and the 4IIQ. These values were not statistically significant. The analysis of pruritus intensity took into consideration the result of 4-Item Itch Questionnaire (4IIQ) and the subjective assessment of pruritus intensity by means of the VAS analogue scale, which was included in the Questionnaire for the Descriptive Assessment of Pruritus. The question about pruritus frequency was also included in the Questionnaire for the Descriptive Assessment of Pruritus. The result of the 4IIQ is a continuous variable, therefore in order to measure the relationship between the 4IIQ and the BECK scale, STAI X1, and STAI X2, the Pearson correlation coefficient (r) was used. There was no influence of pruritus frequency on the level of anxiety and depression.

Discussion

In the literature there are few reports about anxiety and depression among patients with pruritus ani. The obtained sociodemographic data are consistent with the studies of pruritus ani incidence found in the literature. Sixty patients participated in the study, 60% were men, 40% women. The average age of patients was 49.1 years; this result is adequate for epidemiological studies, according to which this type of pruritus most frequently affects men aged 30 to 70 [12–14]. It is estimated that approximately 25–75% of patients present pruritus ani in the course of a coexistent condition. In many studies, it was proved that it is very often a symptom of a proctological disease with haemorrhoids and anal fissure [12]. Treatment of these conditions is quite efficient and generally brings considerable relief to patients. Our aim was to focus on those patients who were not diagnosed with the abovementioned causes of pruritus.

In the study, a subjective assessment of the mental state was carried out in relation to the reported symptoms. Patients referred to their mental state in the course of the disease, describing its influence on their mood. As many as 86% of respondents declared mood disorders related to pruritus. The disorders included low mood (51%), difficulties in concentrating (20%), irritation (13%), and in 10% of patients the occurrence of pruritus generated a feeling of anxiety. In the study group, low mood proved significant, especially in the group of patients with allergic contact dermatitis, possibly because in this group the intensity of pruritus was higher.

Numerous scientific reports indicate a significant influence of pruritus on patients' emotional state [15]. This involves mainly annoyance, irritability or general

bad mood or even anxiety [16–18]. Literature reports are reflected in our own research.

Psychological factors are considered very important in the case of patients suffering from chronic pruritus. The majority of previous studies dealing with the psychological aspects of pruritus ani focused on psychodynamic theories of this symptom [19–21]. However, an aspect which is more important, especially for clinicians, is the fact whether psychological problems are an essential feature characteristic of patients with PA. Idiopathic pruritus ani is often considered a psychogenic pruritus. Inclination towards anxious or depressive personality are major psychological traits attributed to these patients [11]. However, there is no conclusive evidence to confirm these statements. In the modern literature available, one study was found which compared various psychological aspects in patients with idiopathic (primary) pruritus ani and those with secondary pruritus ani (SPA) [22].

Laurent *et al.* [22] tested a hypothesis of psychogenic origin of IPA by comparing personality differences and psychological functioning by means of the MMPI test (Minnesota Multiphasic Personality Inventory) in patients suffering from secondary pruritus ani. In this study, the average results for hypomania were significantly higher for IPA than for SPA; the results on the paranoia scale showed IPA's tendency towards higher values, but with no statistically significant difference. However, the results of the depression scale were significantly higher in the case of patients with SPA, which is comparable to the results of our own study. Probably, the greater intensity of depressive symptoms in the group of patients with ACD is related to a higher intensity of pruritus when compared to patients with IPA. In the abovementioned study, the MMPI results were different for IPA (58.8% had an abnormal psychological profile) and SPA (50%), but with no statistically significant difference.

In their study, Laihinén demonstrated that psychological disorders are much more common in pruritic dermatoses when compared to general population [23]. Anxiety as a personality trait is often associated with obsessive-compulsive personality with masochistic, passive aggressive traits. A common scenario in this personality type is compulsive hand washing driven by persistent thoughts about bacteria and dirt located on hands. Washing hands allows each time to temporarily relieve these thoughts, but can have a negative effect in the form of skin pruritus and eczema caused by skin irritation. Pruritus associated with the spectrum of obsessive-compulsive disease is characterized by persistent thoughts that lead to compulsive scratching, pinching, and secondary skin lesions [24]. The recurrent pruritus leads thus to the vicious cycle “itch-scratch” – pruritogenic factors are released and lead to obsessive-compulsive.

It is believed that idiopathic pruritus ani predisposes to the manifestation of anxiety disorders which were even supposed to play the role of an etiological factor. The aim of this study was, among other things, to examine the occurrence of anxious personality of the anankastic type among people diagnosed with idiopathic pruritus ani. However, this correlation was not unequivocally determined, which is corroborated by previous scientific reports dealing with psychological assessment of patients with PA.

Our study involved also an analysis of the relationship between the duration of symptoms and the level of anxiety and depression. In the whole study group, no statistically significant correlation was revealed, which is corroborated by other reports [25]. In the case of idiopathic pruritus ani, it was observed that the intensity of anxiety-depressive symptoms increased with long-lasting symptoms; it is a weak, statistically non-significant correlation, but it can be explained by feelings of helplessness and an increasingly low mood after seeing another specialist who tried to help the patient.

The correlation of pruritus intensity with sleep disorders, quality of life, and behavioural disorders in children with atopic dermatitis was proved in many studies [26, 27].

In order to assess the intensity of pruritus, this study used, among other things, the VAS scale included in the Questionnaire for the Descriptive Assessment of Pruritus. The disadvantage of the VAS is its high subjectivity, which is why the validated 4-Item Itch Questionnaire was also used for this study [28].

Fifty percent of patients experienced pruritus every day and 38.3% several times a week. Hence, it can be said that pruritus occurred frequently in the study group. According to the interpretation of the VAS and 4IIQ scales (VAS: 3.95 ± 2.81 , 4IIQ: 9.1 ± 3.26), the pruritus remained moderate. Referring to the study by Warlich *et al.* [29], it was noted that the influence of moderate pruritus on the quality of life was small or moderate. It can therefore be concluded that since moderate pruritus slightly affects the quality of life, it adequately affects the level of anxiety-depressive symptoms, which was revealed in this study.

The lack of correlation between the frequency of pruritus occurrence and anxiety-depressive symptoms may result from the fact that it remains at a moderate level. The presented data show the negative effect of pruritus ani on patients' physical and mental functioning. This is why it is important to look for the causes of this symptom, which can contribute to eliminating its intensity, improving the patients' mood, and thus improving their quality of life.

Conflict of interest

The authors declare no conflict of interest.

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