



Major considerations in neurotic skin excoriations and psychiatric disorders: a systematic review

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DOI: <https://doi.org/10.54448/mdnt24405>

Received: 07-14-2024; Revised: 09-17-2024; Accepted: 09-20-2024; Published: 10-04-2024; MedNEXT-id: e24405

Editor: Dr. Idiberto José Zotarelli-Filho, MSc, Ph.D., Post-Doctoral.

Abstract

Introduction: Among psychiatric dermatoses, neurotic excoriation is characterized by the patient's confession of causing lesions on the skin itself, without presenting a basic dermatological disease. The theme has been gaining prominence since the incorporation of the diagnosis in the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders (DSM-5, APA 2014). **Objective:** The present study addressed the main clinical findings in research studies on neurotic excoriation, in addition to valuing the importance of psychological aspects in etiopathogenesis. **Methods:** The research and development of the work were carried out from June to July 2024 in the Scopus, PubMed, Science Direct, and Scielo databases, using the main scientific articles on nutrigenomics, and following the PRISMA rules. The quality of the studies was based on the GRADE and AMSTAR-2 instruments, and the risk of bias by the Cochrane instrument (Funnel Plot). **Results and Conclusion:** 18 studies were included out of a total of 115. According to the GRADE instrument, most studies presented homogeneity in their results, with $X^2=89.5\%>50\%$. Considering the Cochrane tool for risk of bias, the overall assessment resulted in 26 studies with a high risk of bias and 25 studies that did not meet the GRADE and AMSTAR-2 criteria. It was found that the subject has been scarcely addressed in the literature since not all cases are diagnosed and this pathology has

more than one denomination (excoriation disorder, pathological palpation of the skin, neurodermatitis, dermatothilomania, and psychogenic excoriation). Therefore, the present study addressed the main clinical findings in research studies, through a systematic review, on neurotic excoriation, in addition to valuing the importance of psychological aspects in etiopathogenesis.

Keywords: Neurotic excoriation. Excoriation disorder. Itching. Skin picking. Dermatotillomania.

Introduction

The correlation between psychiatric and dermatological disorders is highly complex, considering etiology, diagnosis, and treatment. The skin and the nervous system, of which the brain is the central organ, have the same origin during the formation of the embryo. Both are of ectodermal origin and, therefore, there is an important interaction between them [1]. In this scenario, the excoriation disorder (ED), also known as dermatillomania, psychogenic excoriation, or neurotic excoriation, is characterized by the recurrent choice of skin, leading to skin lesions and significant suffering or functional impairment [1,2].

Although documented in the medical literature since the 19th century, ED has only recently been included as a distinct entity in conventional psychiatric nosology. In the Diagnostic and Statistical Manual of

Mental Disorders, 5th Edition (DSM-5) and in the proposed International Classification of Diseases, 11th Revision (ICD-11), ED is listed as one of the obsessive-compulsive and related disorders (OCRDs), due to its overlap with conditions such as trichotillomania [3-6].

Epidemiological data indicated a prevalence of neurotic excoriation of 2 to 3%, in relation to the general population, 2%, among dermatological patients, and 9%, in patients with pruritus [1,7]. Lesions are seen in the places most easily reached by the hands, such as the face and upper limbs [8]. It affects both sexes in different age groups with a significant predominance in women. The patient admits to causing skin lesions repeatedly and frequently, being unable to avoid the repetitive process, characterizing the compulsion [9].

Emotion finds in the skin a means of physical expression. The records of the most diverse feelings are marked there in the form of scars. The lesions of the disease mark the space of a physical and also a psychological wound, taking the person as a psychosomatic totality [10].

According to Azambuja (2009) [11], the abrasions do not result from neurosis, but from a very particular mental process that forces the person to scrape himself as a form of stress relief, whose energy is diverted to a repetitive gesture of rubbing, scratching, scratch or pluck the skin. Scratching is one of the archaic forms of the return of aggression on the body. In terms of treatment, there is a shortage of data. However, management currently has a comprehensive psychiatric examination, behavioral therapy, and medication.

Therefore, the present study addressed the main clinical findings in research studies on neurotic excoriation, in addition to valuing the importance of psychological aspects in etiopathogenesis.

Methods

Study Design

This study followed the international systematic review model, following the PRISMA (preferred reporting items for systematic reviews and meta-analysis) rules. Available at: <http://www.prisma-statement.org/?AspxAutoDetectCookieSupport=1>. It was accessed on: 07/15/2024. The AMSTAR-2 (Assessing the methodological quality of systematic reviews) methodological quality standards were also followed. Available at: <https://amstar.ca/>. It was accessed on: 07/15/2024.

Data Sources, Search Strategy, and Study Time

The search strategies for this study were based on the descriptors of the DeCS platform (available at: <https://decs.bvsalud.org/>) with the descriptors (MeSH

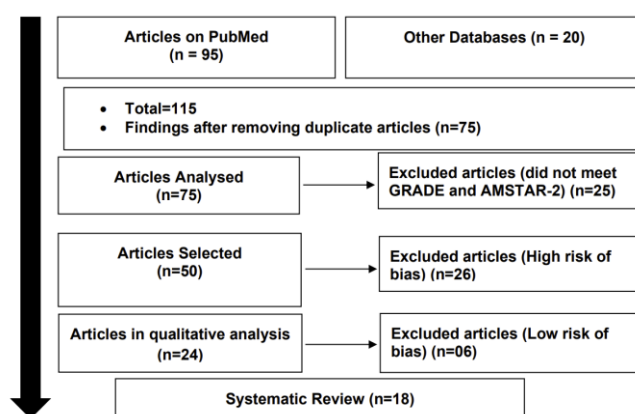
Terms): "*Neurotic excoriation. Excoriation disorder. Itching. Skin picking. Dermatotillomania*". Search filters designated as clinical studies were used. The research and development of the work were carried out from June to July 2024 in the Scopus, PubMed, OVID, Science Direct, LILACS, and EBSCO databases, using previous articles to the present. In addition, a combination of keywords with the Boolean operators "OR", AND, and "NOT" operator was used to target the scientific articles of interest. The title and abstracts were examined in all conditions.

Results and Discussion

Summary of Findings

As a corollary of the literature search system, a total of 115 articles were found that were submitted to eligibility analysis and, subsequently, 18 of the 24 final studies were selected to compose the results of this systematic review. The listed studies presented medium to high quality (Figure 1), considering in the first instance the level of scientific evidence of studies in study types such as meta-analysis, consensus, randomized clinical, prospective, and observational. Biases did not compromise the scientific basis of the studies. According to the GRADE instrument, most studies presented homogeneity in their results, with $X^2=89.5\%>50\%$. Considering the Cochrane tool for risk of bias, the overall assessment resulted in 26 studies with a high risk of bias and 25 studies that did not meet GRADE and AMSTAR-2.

Figure 1. Flowchart showing the article selection process.

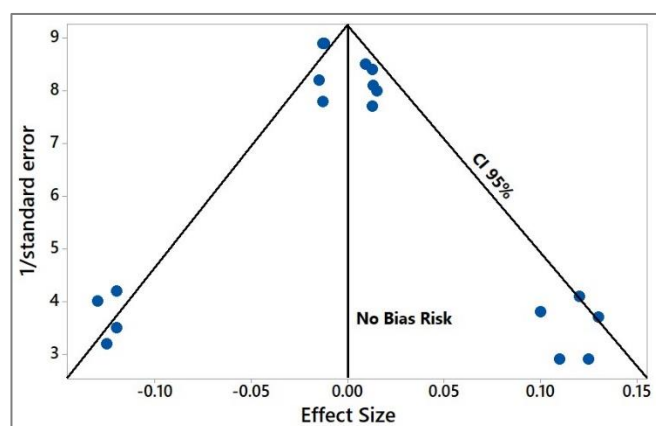


Source: Own Authorship.

Figure 2 presents the results of the risk of bias of the studies using the Funnel Plot, showing the calculation of the Effect Size (Magnitude of the difference) using Cohen's Test (d). Precision (sample size) was determined indirectly by the inverse of the standard error (1/Standard Error). This graph had a

symmetrical behavior, not suggesting a significant risk of bias, both among studies with small sample sizes (lower precision) at the bottom of the graph and in studies with large sample sizes at the top.

Figure 2. The symmetrical funnel plot suggests no risk of bias among the studies with small sample sizes, which are shown at the bottom of the graph. High confidence and high recommendation studies are shown above the graph (n=18 studies).



Source: Own Authorship.

Major Outcomes

The association between psychiatric and dermatological disorders has been well characterized in the current literature, with estimates of up to 40% of patients with dermatology with concomitant psychiatric problems, often related to their skin condition [1-3]. The most common underlying psychopathological conditions are depression and anxiety, borderline personality disorder, body dysmorphic disorder, substance use disorder, eating disorders, trichotillomania, and kleptomania. Self-destructive behavior, difficulty expressing anger, and obsessive-compulsive disorder are also identified. In this sense, loss, recent grief, and obsessive-compulsive personality are factors that can be related to the diagnosis [10].

Also, emotional traumas suffered during child development, abandonment, family breakdown, restricted emotional ties, adulthood with difficulties in performing tasks that require emotional maturity, and the ability to control impulses. Family histories were notable for depressive disorders and psychoactive substance use disorders. Most patients experience increasing tension before excoriation and relief after [10].

Committed to the task of integrating the work of dermatologists and psychologists, Psychodermatology has proposed to research and treat dermatoses that present factors that are more susceptible to psychological determinants [11,12]. Torres emphasizes

the importance of understanding the psychiatric conditions present in dermatoses, thus, the case discussion in an interdisciplinary team can prove to be an effective strategy due to the complexity of the symptoms that the patient may present [13,14]. Within psychogenic dermatoses are neurotic excoriations. They are characterized by compulsive self-produced lesions with the nails that the patient justifies by the uncontrollable sensation of itching, burning, or the need to remove something from the skin, such as small follicular papules, keratosis or other elements [15].

There is a vicious circle between itching, scarring, and skin damage, which again leads to an uncomfortable feeling and scratching. The chronicity of skin lesions result in the thickening of the epidermis with accentuation of the grooves and color, a reaction called lichenification [16]. Fingernails can be usual agents and abrasions can take typical forms. The lesions may be primary or be associated with a pre-existing lesion of another nature, which may occur on the face, or on any part of the body, and the pruritus may be present, but it is rarely perceived as a primary lesion. Excoriations are usually less than an inch in diameter and are covered with hematic crusts and erythematous borders. Its resolution can leave a clear scar with hyperpigmented edges. Lesions are noted in all stages, usually more frequent and concentrated in the forearms, face, neck, and shoulders. In general, patients are under stress and depressed, and the compulsive aspect refers to unconscious feelings of guilt and the need for self-punishment [16].

In this context, a clinical study evaluated the psychiatric characteristics of neurotic excoriation and investigated the effect of traumatic events in childhood on the disease [17]. Thirty-eight patients with neurotic excoriations who had not received psychiatric treatment in the past year and 40 healthy individuals with similar sociodemographic characteristics were included in the study. For clinical evaluation, the DSM-IV Structured Clinical Interview for Axis I Disorders, Beck's Depression Inventory, Beck's Anxiety Inventory, and the Short Form Childhood Trauma Questionnaire were applied to all individuals. It was observed that 78.9% of patients with neurotic excoriations were diagnosed with at least one Axis I psychiatric disorder, whose most frequent diagnoses were severe depressive disorders and anxiety disorders. The levels of anxiety and depression were significantly higher in the patient group than in healthy individuals. In relation to the Childhood Trauma Questionnaire, the emotional neglect, emotional abuse, and physical abuse subscales, and the weighted average total scores were significantly higher in the patient group ($p < 0.05$). Therefore, there is a close relationship between neurotic excoriations and traumatic events in

childhood, as well as the psychiatric problems that accompany them. We assume that early interventions by dermatologists and psychiatrists and, in particular, a detailed investigation of traumatic events in childhood, establishing a therapeutic collaboration, are highly important and that the use of psychotherapeutic interventions can result in better treatment results in many patients [17].

In this sense, the doctor-patient relationship is extremely important for better acceptance of the diagnosis and for greater adherence to treatment [18-21]. Currently, the therapeutic conduct of neurotic excoriation consists of an indication of antidepressants and antipsychotics. Among the non-medication therapeutic possibilities, the literature refers to behavioral psychotherapy, focal, or brief [21].

The goal of psychotherapy is to bring repressed feelings to the surface through the use of verbalized content. Treatments considered effective in case reports include a behavioral technique called "habit reversal"; which consists of self-monitoring, recording of episodes of scratches, and procedures that produce alternative responses to scratching [22]. Thus, pharmacological therapies that include selective serotonin reuptake inhibitors (SSRIs), serotonin-noradrenaline reuptake inhibitors, antipsychotics, and glutaminergic modulating agents. SSRIs and N-acetylcysteine proved to be effective. In addition, atomoxetine is a selective noradrenaline reuptake inhibitor used in the treatment of attention-deficit / hyperactivity disorder (ADHD). A case report presented a 9-year-old girl with a comorbid diagnosis of ADHD and ED successfully treated with atomoxetine. There was a positive result in the performance of this drug, but more studies are needed on the effectiveness of atomoxetine in the treatment of ED in the presence and absence of ADHD. Thus, there is a search for a clinical solution, through dermatological consultations, which, when unsuccessful, increase anxiety, making patients more frustrated, worsening existing psychological symptoms [23].

In addition, a systematic review study analyzed the evidence on skin disorder, as defined by the Arnold criteria or the Diagnostic and Statistical Manual of Mental Disorders - fifth edition (DSM-5), and examined whether the skin palpation disorder justifies the inclusion in DSM-5 as a distinct disorder. Thus, a total of 20 studies were considered eligible in 1554. Most of the articles were case-control studies with small clinical samples. Only one of Blashfield's five criteria was met. There were commonly accepted diagnostic criteria and evaluation scales present in the literature. Only a small proportion of published studies on skin disorder used validated criteria. Therefore, the current literature fulfills only one of the five Blashfield criteria for the inclusion

of skin palpation disorder as a specific entity in psychiatric diagnostic manuals. More empirical studies on skin palpation disorder are needed to substantiate skin palpation disorder as a disorder distinct from related disorders in the obsessive-compulsive category and related disorders [24].

Conclusion

It is concluded, therefore, the importance of early and correct diagnostic evaluation, in order to avoid further physical and psychological damage to patients. The multidisciplinary approach is necessary considering the patient as a whole, taking into account individual, physical, psychological, family, social and lifestyle characteristics. This study can contribute to a better understanding of the disease and the factors that involve it, covering prophylaxis, treatment, and management of triggering and punctuating factors of the disease.

CRedit

Author contributions: **Conceptualization** - Natalia Hirt, Ana Luísa Nogueira Abumussi, João Pedro Rombaldi Costa, Maria Fernanda Farah Fadel, Melina da Silva Costa, Gabriela Batauz Lisboa, Mainara da Silva Zoratto, Eduardo da Silva Zoratto; **Data curation** - Natalia Hirt, Ana Luísa Nogueira Abumussi, João Pedro Rombaldi Costa, Maria Fernanda Farah Fadel; **Formal Analysis** - Melina da Silva Costa, Gabriela Batauz Lisboa, Mainara da Silva Zoratto, Eduardo da Silva Zoratto; **Investigation**- Natalia Hirt, Ana Luísa Nogueira Abumussi, João Pedro Rombaldi Costa, Maria Fernanda Farah Fadel, Melina da Silva Costa; **Methodology** -Gabriela Batauz Lisboa, Mainara da Silva Zoratto, Eduardo da Silva Zoratto; **Project administration** - Natalia Hirt; **Supervision** - Natalia Hirt; **Writing - original draft** - Natalia Hirt, Ana Luísa Nogueira Abumussi, João Pedro Rombaldi Costa, Maria Fernanda Farah Fadel, Melina da Silva Costa, Gabriela Batauz Lisboa, Mainara da Silva Zoratto, Eduardo da Silva Zoratto; **Writing-review & editing**- Natalia Hirt, Ana Luísa Nogueira Abumussi, João Pedro Rombaldi Costa, Maria Fernanda Farah Fadel, Melina da Silva Costa, Gabriela Batauz Lisboa, Mainara da Silva Zoratto, Eduardo da Silva Zoratto.

Acknowledgment

Not applicable.

Ethical Approval

Not applicable.

Informed Consent

Not applicable.

Funding

Not applicable.

Data Sharing Statement

No additional data are available.

Conflict of Interest

The authors declare no conflict of interest.

Similarity Check

It was applied by Ithenticate®.

Peer Review Process

It was performed.

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