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Original Research Article

A case -control study on the effect of alexithymia in patients of chronic urticarial

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ABSTRACT

Background: Chronic urticaria (CU) places a substantial physical and emotional strain on individuals, impacting their overall quality of life. Alexithymia, described as difficulty experiencing, identifying and expressing emotions, is a characteristic linked to various skin conditions including CU. This study was carried out to assess how alexithymia compares between patients with chronic urticaria and individuals without the condition.

Materials and Methods: We included a total of 50 individuals with chronic urticaria (CU) and 50 healthy individuals as controls. All participants were asked to complete the Toronto Alexithymia Score (TAS-20) questionnaire as part of the study assessment.

Result: In our study we found the following patterns within the chronic urticaria (CU) group: 52% exhibited clear characteristics of alexithymia, 30% showed potential signs of alexithymia and 18% of participants had no indications of alexithymia. Among those who displayed alexithymia, the majority (88.5%) were in the non-controlled CU group category. When we examined the TAS-20 categories, we noticed gender differences among participants with alexithymia: 57.1% were female and 45.5% were male, suggesting a female predominance.

In the control group, TAS-20 categorization revealed the following: 52% of participants had no alexithymia, 32% displayed potential alexithymia and 16% showed signs of alexithymia**.**

Conclusion: Individuals with chronic urticaria (CU) tend to exhibit higher levels of alexithymia, particularly in the DIF (Difficulty Identifying Feelings) and DDF (Difficulty Describing Feelings) subscales, when compared to individuals in the control population.

1. Introduction

Urticaria is a cutaneous disorder characterised by the appearance of transient, pruritic, erythematous, slightly oedematous wheals. The word urticaria is derived from the common European stinging nettle Urtica dioica. Based on the duration, urticaria can be: acute type (AU), lasting for less than six weeks, or chronic type (CU), which persists for more than six weeks. Chronic urticaria can further be divided into: Chronic inducible Urticaria (CIndU) and Chronic spontaneous Urticaria (CSU). In individuals with CSU, the symptoms may appear unexpectedly, without clear triggers, although stress, infections, and other factors can influence the severity of these symptoms. Notably, CSU is more prevalent than CIndU, and it's possible for both types to coexist within the same. [1]

A recent comprehensive analysis of studies found that chronic urticaria (CU) has an overall prevalence rate of 4.4% throughout a person's lifetime. Notably, Latin America and Asia exhibit higher rates of CU compared to other regions. [2] It's crucial to highlight that CU often persists for extended

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periods, leading to significant reductions in the quality of life for many individuals. When symptoms of CU recur frequently, sometimes even daily, it can profoundly impair patient's overall well-being and psychological state. This condition falls under the category of psycho-dermatological disorders, where the itching itself can further erode a patient's quality of life. It's estimated that over 30% of individuals dealing with chronic spontaneous urticaria (CSU) also suffer with concomitant psychiatric disorders.[3] Hence, it is strongly recommended that individuals with CSU undergo routine mental health assessments to ensure comprehensive care and support.

Alexithymia can be described as a personality trait marked by several key features: a challenge in expressing, describing and differentiating feelings, bodily sensations and recognizing emotions and differentiating them from physical sensations, trouble expressing emotions to others and with a tendency to prioritize external events over internal emotional experiences. It may or may not be associated with mental health disorders like depression, post-traumatic stress disorder, eating disorders and autism. The skin is the largest organ of the body and contains a multitude of nerve endings, which transmit information about stimuli such as itching and pain to the central nervous system. Current understanding of the relationship between the skin and associated neuro-immuno-endocrine response suggests that stress activates release of hormones, neurotransmitters and cytokines, which may further lead to recurrences in persons with Chronic forms of urticaria. Persons with alexithymia struggle with expressing emotions, and often react to external events with unmoderated states of physiological arousal. In such cases supressed emotions can likely act as a trigger for the biological response, leading to recurrent urticaria which will significantly affect a person's quality of life.

Alexithymia can affect up to 10% of the general population.[4–6] Alexithymia was reported to be prevalent in CU patients at a rate of 76.4%, according to a study by Barbosa et al. Also Alexithymia was not related to the severity or duration of the disease, but to gender, with greater TAS-20 scores in female CU patients compared with male CU patients. Moreover, patients with alexithymia are reported to demonstrate introversion, obsessive-compulsive behaviour, paranoid thoughts, repression, and defensiveness.[7–9] Finally, it was reported that alexithymia was negatively related to the quality of life, physical functioning, mental health, vitality, and general perception of health.[10]

2. Materials and Methods

Our study focused on individuals who had been diagnosed with chronic spontaneous urticaria (CSU) either previously or as a new diagnosis at our outpatient department.

To be eligible for participation, individuals needed to meet the following criteria:

1. Be between the ages of 18 and 80
2. Have never previously been diagnosed with alexithymia,
3. Have a confirmed diagnosis of urticaria
4. Be willing to undergo clinical assessment and complete a self-administered questionnaire as part of our research.

Before subjecting participants to questionnaire for the study, informed consent was taken. The control group consisted of healthy caregivers who were attending to patients in the medical wards of a teaching hospital.

These caregivers did not have CU or any other medical or psychological issues. As part of the study, they were also asked to complete the TAS-20 questionnaire.

2.1. Questionnaire

Participants were requested to fill out a set of self-administered questionnaires, which included the TAS20 (Toronto Alexithymia Scale), UAS-7 (Urticaria Activity Score-7), UCT (Urticaria Control Test), CU-Q2oL (Chronic Urticaria Quality of Life), and a demographic survey. We also gathered information about the duration since their diagnosis, the type of medication they were on for urticaria, any coexisting medical conditions and other relevant medical details if any. We made sure to translate the questionnaires as necessary, and by obtaining this information, we aimed to conduct a thorough assessment of how urticaria impacted the participants' quality of life.

2.2. Variables in the study

In this study, various case variables were considered. These included the type of Chronic Urticaria (CU), gender, age, and any accompanying medical conditions. Information regarding the time elapsed since the CU diagnosis and the use of specific medications such as antihistamines (both first and second generation), omalizumab, and corticosteroids was also considered. Data on these variables were gathered through self-administered questionnaires and medical records. CU types were categorized into three groups: Chronic Spontaneous Urticaria (CSU), Chronic Inducible Urticaria (CIndU), and a combination of both. Gender was classified as either male or female, while age was recorded as a continuous variable.

The presence of comorbidities, which encompassed conditions like cardiovascular diseases (e.g., hypertension, coronary artery disease, stroke), autoimmune disorders (e.g., Hashimoto's thyroiditis, Graves' disease, Sjögren's syndrome, systemic lupus erythematosus, rheumatoid arthritis), cancers (e.g., Polycythemia Vera, Acute Myeloid Leukemia, breast cancer, renal cell carcinoma),

allergies (e.g., allergic rhinitis, asthma, drug allergies), and mental health issues (e.g., anxiety, depression), was also documented.

In addition, we kept records of how individuals used medications for Chronic Urticaria (CU).This included noting the duration of their medication use, which encompassed first-generation antihistamines such as hydroxyzine, diphenhydramine, and chlorpheniramine, as well as second-generation antihistamines like fexofenadine, cetirizine, loratadine, levocetirizine, and desloratadine. We also documented the use of corticosteroids, antileukotrienes, and omalizumab. Furthermore, we recorded the length of time since individuals were diagnosed with CU in terms of months.

2.3. Outcome Variable

It is common to assess the alexithymia facets using the twenty-question Toronto Alexithymia Scale (TAS-20). As a result of its high validity, internal and external consistency, and short administration time, TAS-20 is considered as the "gold standard" for medical research purpose. The study employed the twenty-item Toronto Alexithymia Scale (TAS-20) to assess the presence of alexithymia. Individuals were classified into three groups based on their TAS-20 scores: those with scores equal to or below 51 were categorized as not having alexithymia (no alexithymia), those with scores between 52 and 60 were categorized as potentially having alexithymia (potential alexithymia), and those with scores equal to or greater than 61 were categorized as having alexithymia. Therefore, the primary outcome variable was grouped into three categories: non-alexithymia, potential alexithymia, and alexithymia.

2.4. Main predictor variable

The study utilized four Patient-Reported Outcome Measures (PROMs) related to Chronic Urticaria (CU) as predictor variables to investigate their association with alexithymia. These PROMs are as follows:

1. Urticaria control test (UCT)
   (a) The UCT is a reliable and valid questionnaire consisting of four items. It evaluates disease control in CU patients (both spontaneous and inducible types) over the preceding four weeks. Scores on the UCT range from 0 to 16. A score of 12 or higher is considered indicative of "Controlled CU," while a score below 12 indicates "Uncontrolled CU" (21).
2. Urticaria activity score-7 (UAS-7)
   (a) The UAS-7 is a seven-item questionnaire designed to assess the severity and impact of urticaria symptoms on daily life. It combines the daily Itch Severity Score (ranging from 0 = none to 3 = severe) with the daily Number of Hives Score (ranging from 0 = none to 3 = greater than 12 hives) to yield a daily score ranging from 0 to 6 points. The total score is classified into several categories based on the distribution of scores in the study sample, including urticaria-free, well-controlled urticaria, mild-activity urticaria, moderate-activity urticaria, and severe activity urticaria (22 and 23).
3. The chronic urticaria quality of life (CU-Q2oL)
   (a) The CU-Q2oL questionnaire is employed as a means to evaluate how Chronic Urticaria (CU) affects the quality of life (QoL) of individuals. This questionnaire comprises 23 items categorized into six domains: Functioning, Sleep, Itching, Embarrassment, Mental Status, Swelling Eating, and Limits Looks. Participants express their responses by rating each item on a scale ranging from 1 (indicating "never" or"not at all") to 5 (representing "very often" or "very much"). The scores within each domain collectively provide a comprehensive
4. Morisky green questionnaire
   (a) The Morisky Medication Adherence Scale (MMAS-8) is a self-report tool used to assess how well individuals adhere to their medication regimen. This scale is particularly useful for identifying obstacles and behaviours related to adherence to long-term medications. It covers both unintentional issues like forgetfulness and intentional choices such as avoiding medication due to side effects.

3. Result

The research involved a total of 100 participants, evenly split into two groups: 50 in the CU group and 50 in the control group. These participants ranged in age from 18 to 79 years, with a distribution of 56% women and 44% men. Importantly, our analysis did not reveal any statistically significant differences in terms of age, race, or marital status between these two groups.

Using the TAS 20 categorization to evaluate CU, we observed that 18% of participants showed no signs of alexithymia, 30% displayed possible alexithymia, and 52% exhibited clear alexithymia traits. Among those who displayed alexithymia, the majority (88.5%) were in the non-controlled CU and within the group of individuals with controlled urticaria , none (0%) were observed to have alexithymia. However, when examining the TAS 20 categories, it was observed that among participants with alexithymia, 57.1% were female, while 45.5% were male. In

Table 1: Mean age in both groups

	Cases (n=50)	Controls (n=50)	p value
Mean age in years	32.82±12.52	30.30±7.37	0.21

Table 2: Gender distribution in both groups

Gender	Cases (n=50)	Controls (n=50)	p value
Male	22 (44%)	22 (44%)	-
Female	28 (56%)	28 (56%)	

Table 3: Mean TAS score comparison between both groups

	Cases (n=50)	Controls (n=50)	p value
Mean TAS score	60.36±11.73	54.20±6.02	0.001

Table 4: Alexithymia comparison between both groups

Alexithymia	Cases (n=50)	Controls (n=50)	p value
No Alexithymia	9 (18%)	26 (52%)	
Possible Alexithymia	15 (30%)	16 (32%)	**<0.001**
Alexithymia present	26 (52%)	8 (16%)	

Table 5: Association of alexithymia with QOL in urticaria cases

	No Alexithymia	Possible Alexithymia	Alexithymia present	p value
Mean CU-QoL score	36.89±9.32	44.60±9.57	48.85±7.49	0.003

Table 6: Alexithymia comparison between male and female in urticaria cases

Alexithymia	Male (n=22)	Female (n=28)	p value
No Alexithymia	4 (18.2%)	5 (17.9%)	
Possible Alexithymia	8 (36.4%)	7 (25%)	0.65
Alexithymia present	10 (45.5%)	16 (57.1%)	

Table 7: Association of alexithymia with UAS-7 in urticaria cases

UAS-7	No Alexithymia	Possible Alexithymia	Alexithymia present	p value
1-6	1 (11.1%)	1 (6.7%)	3 (11.5%)	
7-15	3 (33.3%)	6 (40%)	7 (26.9%)	0.91
16-27	3 (33.3%)	7 (46.7%)	12 (46.2%)	
28-41	2 (22.2%)	1 (6.7%)	4 (15.4%)	

Table 8: Association of alexithymia with UCT in urticaria cases

UCT	No Alexithymia	Possible Alexithymia	Alexithymia present	p value
<12	5 (55.6%)	11 (73.3%)	23 (88.5%)	
12-15	3 (33.3%)	4 (26.7%)	3 (11.5%)	0.10
16	1 (11.1%)	0	0	

the control group, TAS 20 categorization indicated that 52% of participants had no alexithymia, 32% displayed possible alexithymia, and only 16% showed signs of alexithymia.

In our study, we aimed to evaluate how chronic urticaria (CU) affects the quality of life (QoL) of participants and whether it is linked to the development of alexithymia. To measure this impact, we utilized the CUQ2OL domains, which are assessed on a scale ranging from 0 to 100, where higher scores indicate a more substantial impact on QoL. Here are the key findings from our research:

1. Average score for CU patients developing alexithymia
   (a) We determined that the mean score for CU patients who developed alexithymia was 48.85±7.49. This indicates that these individuals experienced a moderate impact on their QoL due to chronic urticaria.
2. Average score for CU patients developing alexithymia
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48.85±7.49. This indicates that these individuals experienced a moderate impact on their QoL due to chronic urticaria.

3. Likelihood of developing alexithymia

   (a) Among CU patients, the likelihood of developing alexithymia was measured with an average score of 44.60±9.57. This score suggests a significant likelihood of alexithymia development in this group.

4. Absence of alexithymia traits

   (a) A portion of CU patients in our study, approximately 36.89±9.32%, did not exhibit any traits associated with developing alexithymia. This suggests that, for this subgroup, the impact of CU on their QoL may have been relatively lower compared to those who developed alexithymia.

In summary, our study aimed to assess how chronic urticaria affects participants' QoL and its potential link to the development of alexithymia. Our findings indicate that CU patients who developed alexithymia experienced a moderate impact on their QoL, and there was a substantial likelihood of alexithymia development in this group. Conversely, a portion of CU patients did not display traits associated with alexithymia development, suggesting a potentially lower impact on their QoL.

4. Discussion

Chronic urticaria (CU) imposes a significant physical and emotional burden on individuals as well as on the society. CU symptoms can deeply affect a patient's quality of life, giving rise to destressing problems such as stress, disruptions in sleep patterns, a pessimistic self-image, restrictions in social engagement, and the experience of negative emotions like anger and sadness. It can also lead to diminished physical and emotional well-being, along with impaired performance in academic and occupational environments.[11,12] Patient-reported outcome measures like the urticaria activity score (UAS), CU quality of life questionnaire (CU-Q2oL, tailored for CU), and urticaria control test (UCT), CU-Q2oL (Chronic Urticaria Quality of Life) and Morisky green questionnaire have played a crucial role in enhancing our understanding of how chronic urticaria (CU) affects patients. These tools are endorsed by international guidelines and have proven beneficial in both research and clinical settings to assess CU's effects and its impact on individuals.

It is estimated that alexithymia affects 10-13% of the general population. According to our study findings, alexithymia is present in 26 out of 50 CU patients. In our study, female patients have increased odds of being more likely to have alexithymia. There is substantial evidence supporting a strong link between Chronic Idiopathic Urticaria (CIU) and personality-related issues, specifically those that lead to difficulties in expressing and elaborating on emotions. This inability to effectively convey emotions may be the underlying cause behind the emergence of repressed emotions in the form of physical symptoms, as seen in CIU. Additionally, some research suggests that individuals facing emotional challenges similar to those found in conditions like depression and anxiety may experience heightened dysregulation of the Hypothalamic-Pituitary-Adrenal (HPA) axis. This dysregulation could potentially worsen the symptoms of CIU.

The data provided here correlate a potential connection between alexithymia and chronic urticaria (CU), raising the question of whether identifying and addressing alexithymia could lead to improvements in CU. It's important to emphasis that alexithymia might not be a permanent state, and there is evidence suggesting that addressing it can lead to improved outcomes for individuals. These improvements have been linked to factors such as disease severity, psychological well-being, work performance, and overall quality of life in patients.[13,14]

To address the potential connection between alexithymia and Chronic Urticaria (CU) effectively, a comprehensive treatment strategy is approached. This should involve the timely recognition and management of suspected psychological problems in individuals with CU. Furthermore, a combination of psychotherapy and medication-based treatments designed to target anxiety disorders and alexithymia in individuals with a history of Chronic Urticaria (CU) could help prevent the reappearance of urticaria symptoms.[15]

As per our research findings, it is advisable for individuals with Chronic Urticaria (CU) to undergo regular mental health assessments. A Multidisciplinary approach involving allergists, dermatologists, and psychiatrists is crucial for identifying and managing any mental health issues, with the aim of improving their overall well-being and quality of life.

5. Conclusion

Individuals with chronic urticaria (CU) often exhibit a significant occurrence of alexithymia, a condition linked to more severe and poorly managed disease symptoms. Detecting and actively dealing with alexithymia alongside urticaria treatment in these patients has the potential to enhance their treatment results, associated health issues, and enhance their overall quality of life.

6. Conflicts of Interest

None of the authors has any conflicts of interest to declare.

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