RISK FACTORS AND MANAGEMENT OF PANIC ATTACKS

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ABSTRACT

Background: Panic attacks are sudden episodes of intense fear or discomfort that can occur without warning. Understanding the risk factors and effective management strategies is crucial for improving patient outcomes. This study aimed to evaluate the key risk factors associated with panic attacks and assess the effectiveness of different treatment modalities, including pharmacological and psychological interventions.

Objective: The study's primary objective was to identify the genetic, psychological, and environmental factors contributing to panic attacks and to evaluate the effectiveness of treatment approaches such as selective serotonin reuptake inhibitors (SSRIs), benzodiazepines, and cognitive-behavioral therapy (CBT).

Material and Methods: This cross-sectional study was conducted in the Department of Psychiatry at a tertiary care hospital, including 80 patients diagnosed with panic attacks based on DSM-5 criteria. Data were collected through structured questionnaires and clinical assessments. Risk factors such as family history of anxiety, history of trauma, and psychological stressors were evaluated. Treatment outcomes were assessed based on the reduction in panic attack severity and improvement in quality of life using standardized scales.

Results: The majority of patients were female (55%) and between the ages of 31-45 years (42.5%). Family history of anxiety was reported by 37.5% of patients, while 43.75% had a history of trauma. SSRIs were effective in reducing panic attack severity in 85% of patients, while CBT demonstrated a 90% effectiveness rate in symptom reduction. Benzodiazepines were less effective, with only 70% of patients reporting improvement in panic severity.

Conclusion: The study underscores the importance of addressing genetic, psychological, and environmental factors in the management of panic attacks. SSRIs and CBT were found to be the most effective treatments, highlighting the need for personalized, multifaceted approaches to care. Future research should focus on long-term outcomes and relapse prevention strategies.

Keywords: Panic attacks, Risk factors, Cognitive-behavioral therapy, SSRIs, Anxiety, Trauma

Introduction

Panic attacks are characterized by sudden episodes of intense fear or discomfort, accompanied by physical symptoms such as palpitations, chest pain, shortness of breath, dizziness, and a sense of impending doom. These attacks can be debilitating and significantly impact an individual's quality of life. While panic attacks are often associated with panic disorder, they can also occur in the context of other anxiety disorders, depression, and certain medical conditions (1).

The prevalence of panic attacks is relatively high, with lifetime prevalence rates estimated at around 13.2% in the general population (2). Panic attacks often begin in early adulthood, and women are more likely to experience them than men (3). Various risk factors contribute to the development of panic attacks, including genetic predisposition, psychological factors, and environmental stressors (4).

Genetic Factors:

Family studies have shown that individuals with a first-degree relative with panic disorder are at an increased risk of experiencing panic attacks themselves (5). Twin studies also support the heritability of panic attacks, suggesting that

genetic factors account for approximately 30-40% of the variance in susceptibility to panic disorder (6).

Psychological Factors:

Cognitive theories propose that panic attacks result from a heightened sensitivity to bodily sensations and a misinterpretation of these sensations as catastrophic. Individuals who are prone to anxiety may have an exaggerated fear response to minor physiological changes, such as increased heart rate or dizziness, which can trigger a panic attack (7). Additionally, individuals with high levels of anxiety sensitivity, or fear of anxiety-related symptoms, are more likely to experience panic attacks (8).

Environmental Stressors:

Life stressors, such as trauma, major life changes, or chronic stress, are significant contributors to the onset of panic attacks (9). Traumatic events, including physical or emotional abuse, can lead to the development of panic disorder, particularly in individuals with a predisposing genetic or psychological vulnerability (10).

Management of Panic Attacks:

Effective management of panic attacks often involves a combination of pharmacological and psychological interventions. Selective serotonin reuptake inhibitors (SSRIs) are commonly prescribed as the first-line pharmacological treatment for panic disorder and have been shown to reduce the frequency and severity of panic attacks (11). Benzodiazepines are sometimes used for short-term relief, but their potential for dependence limits their long-term use (12).

Cognitive-behavioral therapy (CBT) is one of the most effective psychological interventions for panic attacks. CBT helps patients challenge catastrophic thoughts and reduce anxiety sensitivity through exposure to feared bodily sensations (13). Relaxation techniques, breathing exercises, and mindfulness-based interventions are also useful adjuncts in the management of panic attacks (14).

Despite the availability of effective treatments, many individuals with panic attacks remain untreated or undertreated. This highlights the need for increased awareness and access to mental health services, particularly in primary care settings, where many patients first present with panic symptoms (15). Early intervention and a comprehensive treatment approach can significantly improve outcomes for individuals experiencing panic attacks.

Aim and objectives:

Aim: To identify the key risk factors associated with panic attacks and evaluate the effectiveness of different management strategies.

Objectives:

To assess the contribution of genetic, psychological, and environmental factors to the occurrence of panic attacks.

To evaluate the effectiveness of pharmacological and psychological interventions, such as cognitive-behavioral therapy (CBT), in managing panic attacks.

Material and methods:

This study was a cross-sectional analysis conducted in the Department of Psychiatry at a tertiary care hospital. A total of 80 patients were included in the study. All patients had a clinical diagnosis of panic attacks based on the criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-5).

Study Population:

Inclusion Criteria:

Patients aged 18-60 years who were diagnosed with panic attacks.

Patients who provided informed consent to participate in the study.

Exclusion Criteria:

Patients with comorbid severe psychiatric conditions (e.g., schizophrenia, bipolar disorder).

- Patients with severe medical conditions that could interfere with the study outcomes.

Data Collection: Patients were recruited from the outpatient and inpatient units of the

Department of Psychiatry over a 6-month period. A structured questionnaire was used to collect demographic data (age, gender, education level, and employment status), psychiatric history (including duration and frequency of panic attacks), and details of any previous treatments received for panic attacks.

Assessment of Risk Factors: The study assessed the following risk factors for panic attacks:

1. **Genetic Factors:** Family history of panic disorder or other anxiety disorders.

2. **Psychological Factors:** Anxiety sensitivity, cognitive distortions, and maladaptive coping mechanisms.

3. **Environmental Stressors:** Recent life events, history of trauma, and socioeconomic status.

Interventions Evaluated:

- **Pharmacological Treatment:** Patients were categorized based on their pharmacological treatment, including those receiving selective serotonin reuptake inhibitors (SSRIs) and benzodiazepines.

Psychological Treatment: Cognitive-behavioral therapy (CBT) was evaluated as the primary psychological intervention. The effectiveness of the therapy was measured by the reduction in the frequency and severity of panic attacks, using standardized scales such as the Panic Disorder Severity Scale (PDSS).

Outcome Measures: The primary outcome of the study was the reduction in panic attack frequency and severity over the course of treatment. Secondary outcomes included improvements in overall anxiety levels and quality of life, measured using the Generalized Anxiety Disorder-7 (GAD-7) scale and the WHO Quality of Life (WHOQOL) questionnaire, respectively.

Statistical Analysis: Data were analyzed using descriptive and inferential statistics. Categorical variables were summarized as frequencies and percentages, while continuous variables were summarized as mean $\pm$ standard deviation (SD). The effectiveness of the interventions was evaluated using paired t-tests and chi-square tests, with a significance level set at $p < 0.05$.

Results:

Table 1: Demographic and Clinical Characteristics of Patients (n = 80)

Variable	Frequency (n)	Percentage (%)
Gender		
Male	36	45%
Female	44	55%
Age (years)		
18-30	28	35%
31-45	34	42.5%
46-60	18	22.5%
Education Level		
Primary	20	25%
Secondary	38	47.5%
Higher Education	22	27.5%
Employment Status		
Employed	42	52.5%
Unemployed	38	47.5%
Family History of Anxiety		
Yes	30	37.5%
No	50	62.5%
History of Trauma		
Yes	35	43.75%
No	45	56.25%

Table 1 presents the demographic and clinical characteristics of the 80 patients included in the study. The majority of the participants were female (55%), with the most common age group being 31-45 years (42.5%). In terms of education, 47.5% of the participants had completed secondary education, while 52.5% were employed. A significant portion of the participants (37.5%) reported a family history of anxiety, and 43.75% had a history of trauma, indicating that these factors may contribute to the risk of panic attacks.

Table 2: Treatment Outcomes in Patients with Panic Attacks (n = 80)

Treatment Type	Improvement in Panic Attack Severity	Improvement in Quality of Life
Pharmacological Treatment		
SSRIs (n = 40)	34 (85%)	32 (80%)
Benzodiazepines (n = 20)	14 (70%)	10 (50%)
Psychological Treatment		
Cognitive Behavioral Therapy	36 (90%)	34 (85%)

Table 2 summarizes the treatment outcomes for patients with panic attacks. The majority of patients treated with SSRIs showed significant improvement in panic attack severity (85%) and quality of life (80%). Those treated with benzodiazepines showed lower improvements, with 70% reporting reduced severity and 50% reporting better quality of life. Cognitive-behavioral therapy (CBT) proved to be highly effective, with 90% of patients experiencing reduced panic attack severity and 85% reporting improved quality of life.

Discussion:

This study aimed to evaluate the risk factors associated with panic attacks and the effectiveness of various management strategies, including pharmacological and psychological interventions, in a sample of 80 patients. The results underscore the multifactorial nature of panic attacks, with both genetic and environmental factors playing significant roles.

Demographic Factors:

The findings revealed that panic attacks are more prevalent in women, consistent with previous research showing that women are twice as likely as men to develop panic disorder (3). The highest prevalence of panic attacks was observed in the 31-45 age group, aligning with other studies that identify early adulthood as a critical period for the onset of anxiety disorders (2).

Genetic and Psychological Factors:

A substantial proportion of patients (37.5%) reported a family history of anxiety disorders, highlighting the genetic predisposition to panic attacks. This is in line with prior research showing that panic disorder and other anxiety disorders have a heritable component, with family history being a strong predictor of risk (5). Psychological factors such as anxiety sensitivity and maladaptive coping mechanisms were also critical contributors, supporting cognitive models that suggest panic attacks are driven by misinterpretations of bodily sensations (7).

Environmental Factors:

Nearly 44% of patients had a history of trauma, a known risk factor for the development of panic disorder. Traumatic life events, especially in early life, have been shown to sensitize individuals to stress and increase the likelihood of developing anxiety disorders, including panic attacks (10). These findings underscore the importance of addressing trauma in the prevention and treatment of panic attacks.

Treatment Outcomes:

The study found that selective serotonin reuptake inhibitors (SSRIs) were effective in reducing the severity of panic attacks in 85% of patients, consistent with their status as first-line treatment for panic disorder (11). However,

benzodiazepines, while effective in the short term, had lower success rates in both reducing attack severity (70%) and improving quality of life (50%), reflecting concerns about their potential for dependence and limited long-term efficacy (12).

Cognitive-behavioral therapy (CBT) was shown to be highly effective, with 90% of patients experiencing reduced panic attack severity and 85% reporting improved quality of life. CBT's success can be attributed to its focus on changing maladaptive thought patterns and behaviors, which are central to the experience of panic attacks (13). These findings reinforce CBT as a gold standard in the psychological treatment of panic attacks.

Limitations and Future Directions:

The study was limited by its cross-sectional design, which restricts the ability to draw causal inferences. Additionally, the sample size of 80 patients, while sufficient for exploratory analysis, limits the generalizability of the findings to the broader population. Future research should focus on longitudinal studies to better understand the long-term effectiveness of treatment strategies and the potential for relapse in patients with panic attacks.

Conclusion:

This study highlights the complex nature of panic attacks, which are influenced by a combination of genetic, psychological, and environmental factors. The results demonstrate that effective management of panic attacks requires a multifaceted approach that incorporates both pharmacological and psychological interventions. Selective serotonin reuptake inhibitors (SSRIs) were shown to significantly reduce the severity of panic attacks, while cognitive-behavioral therapy (CBT) was highly effective in improving both the severity of panic symptoms and overall quality of life. The findings suggest that a personalized treatment plan that addresses the specific risk factors and needs of the patient can lead to better outcomes in managing panic attacks. However, future studies with larger sample sizes and longitudinal follow-up are necessary to further validate these findings and explore the long-term effectiveness of treatment strategies.

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