

# Quality of life and associated factors among patients with generalized anxiety disorder at Hai Phong Psychiatric Hospital in 2023

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## ABSTRACT

Generalized anxiety disorder (GAD) is a prevalent condition characterized by persistent worry and associated psychological and somatic symptoms, leading to impaired quality of life (QoL). However, evidence from Vietnam remains limited. This cross-sectional study assessed QoL in 55 patients with GAD diagnosed according to ICD-10 criteria at Hai Phong Psychiatric Hospital in 2023, using the WHOQOL-BREF instrument. Sociodemographic, clinical, and psychosocial data were collected through structured interviews and analyzed with descriptive statistics, chi-square tests, and multivariate logistic regression. Results showed that most participants were female (60.0%) and aged 30–49 years (50.9%), nearly half were unemployed (45.5%), and half had low monthly income (<3 million VND). Overall, 58.2% rated their QoL as poor or very poor, with the greatest impairments observed in psychological and social domains. Multivariate analysis identified stress (OR=3.15, 95% CI: 1.12–8.86), unemployment (OR=2.74, 95% CI: 1.05–7.16), low income (OR=2.89, 95% CI: 1.09–7.66), and illness duration  $\geq 2$  years (OR=3.45, 95% CI: 1.21–9.80) as independent predictors of poor QoL. These findings emphasize the substantial burden of GAD on patients' daily functioning and highlight the importance of interventions that target both clinical symptoms and socioeconomic determinants to improve outcomes.

**Keywords:** *generalized anxiety disorder; quality of life; stress*

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## INTRODUCTION

Generalized anxiety disorder (GAD) is a prevalent and disabling mental health condition, characterized by persistent, excessive, and difficult-to-control worry, often accompanied by a broad range of psychological and somatic symptoms. Epidemiological research indicates that the lifetime prevalence of GAD is approximately 5–7% in the general population, making it one of the most common anxiety disorders worldwide<sup>1</sup>. Patients frequently present with irritability, restlessness, muscle tension, chest discomfort, or gastrointestinal disturbances,

which can easily lead to misdiagnosis in non-psychiatric or primary care settings<sup>2</sup>.

The burden of GAD extends beyond symptomatology to include marked impairments in health-related quality of life (QoL). Individuals with GAD consistently report significantly lower QoL compared to the general population, particularly within psychological and social domains<sup>3</sup>. These impairments are often driven by a combination of chronic anxiety symptoms, high rates of psychiatric and physical comorbidities, functional limitations, and socioeconomic disadvantages. Importantly, the long-term course of GAD contributes to cumulative functional decline, further

exacerbating its negative consequences on daily functioning and well-being.

QoL is a multidimensional construct that encompasses physical health, psychological well-being, social relationships, and environmental conditions. It has become increasingly recognized as a key outcome in mental health research and clinical practice, complementing traditional measures of symptom severity. The WHOQOL-BREF, developed by the World Health Organization and adapted for use in diverse cultural contexts, provides a standardized framework to evaluate QoL across populations. In Vietnam, the instrument has been validated with good psychometric properties, supporting its use for assessing QoL among psychiatric patients<sup>4</sup>.

Despite the growing global emphasis on patient-reported outcomes, studies on QoL in patients with GAD in Vietnam remain scarce. Existing research has largely focused on clinical features, symptom burden, or treatment outcomes, with little attention given to how patients themselves perceive their daily functioning and overall well-being. This represents a critical knowledge gap, particularly as QoL is increasingly regarded not only as an important research endpoint but also as a clinical priority to guide comprehensive interventions. In this context, evaluating QoL among Vietnamese patients with GAD and identifying associated factors is both timely and essential to inform more patient-centered approaches to care. Therefore, this study was conducted with two objectives:

1. To assess the quality of life of patients diagnosed with GAD at Hai Phong Psychiatric Hospital.
2. To identify sociodemographic, clinical, and psychosocial factors associated with QoL in this population.

## METHODS

### Study Design and Setting

A cross-sectional study was conducted at Hai Phong Psychiatric Hospital between March and October 2023.

### Participants

The study population included patients aged 18 years and above who were diagnosed with generalized anxiety disorder (GAD) according to the ICD-10 criteria (F41.1). Inclusion criteria were: (1) clinically stable at the time of interview; (2) able to provide informed consent; and (3) sufficient cognitive ability to respond to questions. Exclusion criteria were: (1) concurrent diagnosis of severe psychiatric disorders such as schizophrenia, bipolar disorder, or major depressive disorder; and (2) severe cognitive impairment or inability to participate in the interview.

### Sample Size

An a-priori power analysis was conducted using G\*Power 3.1 to determine the minimum sample size required for the multiple regression analysis (Objective 2). The analysis was configured for an F-test (Linear multiple regression: Fixed model, R<sup>2</sup> deviation from zero) with the following parameters:

- Significance level  $\alpha$ : 0.05
- Statistical power (1 -  $\beta$ ): 80%
- Number of predictors (k): 6

The expected effect size was set at  $f^2 = 0.20$  (a medium-to-large effect). This estimate is based on previous literature, such as the study by Paz et al. (2020), which found that sociodemographic and behavioral predictors explained approximately 17% of the variance ( $R^2 = 0.17$ , corresponding to an  $f^2 = 0.20$ ) in related psychosocial outcomes (Paz et al., 2020)<sup>5</sup>.

Based on these parameters, the minimum required sample size was calculated to be 54

To ensure adequate power and account for potential data issues, we targeted a sample size of 55 patients. All 55 participants were successfully recruited and included in the final analysis.

### **Data Collection**

Data were collected through structured face-to-face interviews conducted by trained psychiatrists and psychologists. Sociodemographic variables included age, sex, marital status, occupation, and income. Clinical variables included duration of illness, presence and severity of stress, and clinical symptoms. Stress was classified into four levels: none, mild, moderate, and severe.

### **Measurement of Quality of Life**

Quality of life was assessed using the World Health Organization Quality of Life – BREF (WHOQOL-BREF) instrument<sup>4</sup>. This 26-item questionnaire covers four domains:

- Physical health (7 items): pain, energy, sleep, mobility, daily activities, medication dependence, work capacity.
- Psychological health (6 items): positive feelings, thinking, self-esteem, body image, negative feelings, spirituality.
- Social relationships (3 items): personal relationships, social support, sexual activity.
- Environment (8 items): safety, finances, access to health care, leisure, environment, transportation, etc.

Each item was rated on a 5-point Likert scale, and raw scores were converted into a 0–100 scale, with higher scores indicating better QoL. Two additional questions assessed general QoL and self-rated health.

In addition to QoL, the study collected data on sociodemographic, clinical, and psychosocial variables that may be associated with quality of life among patients with generalized anxiety disorder (GAD).

- Sociodemographic variables included age, gender, education, marital status, employment status, and income level.

- Clinical characteristics comprised illness duration, presence of comorbid physical or psychiatric disorders, medication use, and history of hospitalization.

- Psychological measures included anxiety severity (assessed by the Generalized Anxiety Disorder-7, GAD-7) and depressive symptoms (assessed by the Patient Health Questionnaire-9, PHQ-9).

- Social factors such as social support and living arrangements were also recorded.

These variables were analyzed to identify factors independently associated with poorer QoL in individuals with GAD.

### **Statistical Analysis**

Data were entered and analyzed using Stata version 14.0. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize the characteristics of the study population. Categorical variables were compared using chi-square or Fisher's exact tests, as appropriate.

Univariate analyses were first performed to examine the associations between each independent variable and QoL. Variables with p-values <0.20 in univariate analysis were entered into a multivariable ordinal logistic regression model, since the QoL outcome consisted of three ordered levels (very poor, poor, average). This model was used to identify independent predictors of poorer QoL.

Results were expressed as odds ratios (ORs) with 95% confidence intervals (CIs). Statistical significance was set at  $p < 0.05$ .

### **Ethics**

The study protocol was reviewed and approved by the Ethics Committee of Hai Phong Psychiatric Hospital. Written

informed consent was obtained from all participants before data collection.

Participants were assured of confidentiality, and data were anonymized during analysis.

## RESULTS

### General Characteristics of Participants

**Table 1.** General characteristics of patients with GAD (n=55)

Characteristics	n	%
<i>Age group</i>		
<30 years	12	21.8
30–49 years	28	50.9
≥50 years	15	27.3
<i>Sex</i>		
Male	22	40.0
Female	33	60.0
<i>Marital status</i>		
Married/living harmoniously	43	78.2
Divorced/conflicted marriage	6	10.9
Single	6	10.9
<i>Occupation</i>		
Stable employment	20	36.4
Unemployed	25	45.5
Self-employed/other	10	18.2
<i>Monthly income</i>		
<3 million VND	28	50.9
≥3 million VND	27	49.1
<i>Duration of illness</i>		
<1 year	10	18.2
1–3 years	28	50.9
≥3 years	17	30.9
<i>Stress level</i>		
None	13	23.6
Mild	19	34.6
Moderate	15	27.3
Severe	8	14.6

Most patients were between 30 and 49 years old (50.9%), and females accounted for the majority (60.0%). The majority were married and living harmoniously (78.2%). Nearly half were unemployed (45.5%), and about half reported low monthly income below 3 million VND (50.9%). More than half had been ill for over one year (81.8%), and most experienced mild to moderate stress (62%), while 14.6% reported severe stress.

**Table 2.** Clinical features of GAD patients (n=55)

Symptoms	n	%
Worry	55	100.0

Irritability	52	94.6
Nervousness	51	92.7
Restlessness	51	92.7
Tension	46	83.6
Choking sensation	13	23.6
Chest pain	14	25.5
Muscle tension	9	16.4

All patients (100%) presented with excessive worry, the core feature of GAD. Irritability (94.6%), nervousness (92.7%), restlessness (92.7%), and tension (83.6%) were also highly prevalent. Somatic symptoms were less frequent, including chest pain (25.5%), choking sensation (23.6%), and muscle tension (16.4%).

### Quality of Life characteristic

**Table 3.** Patient satisfaction with health status (n=55)

Health satisfaction	n	%
Very dissatisfied	23	41.8
Dissatisfied	18	32.7
Neutral	14	25.5
Satisfied/very satisfied	0	0.0

Most patients reported dissatisfaction with their health status, with 41.8% being very dissatisfied and 32.7% dissatisfied. Only 25.5% expressed a neutral opinion, and none reported satisfaction or very high satisfaction with their health.

**Table 4.** Overall quality of life of patients (n=55)

Overall QoL	n	%
Very poor	11	20.0
Poor	21	38.2
Average	20	36.4
Good/very good	3	5.5

Overall, 58.2% of patients rated their quality of life as poor or very poor (38.2% poor and 20.0% very poor), while 36.4% reported an average level, and only 5.5% described it as good or very good.

**Table 5.** Quality of life across different domains (n=55)

Domain	Score range	n	%
Physical health	<30	7	12.7
	30–39	11	20.0
	40–49	17	30.9
	50–59	12	21.8
	≥60	8	14.6
Psychological health	<30	11	20.0
	30–39	9	16.4
	40–49	14	25.5

	50–59	13	23.6
	≥60	8	14.6
Social relationships	<30	7	12.7
	30–39	12	21.8
	40–49	11	20.0
	50–59	15	27.3
	≥60	10	18.2
Environment	<30	11	20.0
	30–39	8	14.6
	40–49	12	21.8
	50–59	15	27.3
	≥60	9	16.4

Quality of life scores were concentrated mainly in the moderate range across all domains. In the physical health domain, 63.6% of patients scored below 50, 61.9% had psychological health scores below 50. For social relationships, 54.5% scored below 50. The environmental domain showed slightly better results, but 56.4% of patients still had scores under 60.

#### Factor associated quality of life

**Table 6.** Differences in the proportions of QoL levels according to some disease characteristics of the study participants (n=55)

Factor	Very poor	Poor	Average	Total	p-value
<i>Psychological symptoms</i>					
6–9 symptoms	13 (46.43)	9 (32.14)	6 (21.43)	28	0.033
0–5 symptoms	5 (18.52)	8 (29.63)	14 (51.85)	27	
<i>Somatic symptoms</i>					
10–13 symptoms	10 (50.00)	5 (25.00)	5 (25.00)	20	0.027
6–9 symptoms	8 (40.00)	6 (30.00)	6 (30.00)	20	
0–5 symptoms	0 (0.00)	6 (40.00)	9 (60.00)	15	
<i>Illness duration</i>					
<6 months	0 (0.00)	5 (35.71)	9 (64.29)	14	0.041
7–12 months	7 (38.89)	6 (33.33)	5 (27.78)	18	
>12 months	10 (43.48)	7 (30.43)	6 (26.09)	23	

There was a significant association between illness characteristics and quality of life. Patients with a higher number of psychological symptoms (6–9 symptoms) more frequently reported very poor QoL (46.4%) compared to those with fewer symptoms (0–5 symptoms), of whom over half (51.9%) rated their QoL as average (p=0.033). Similarly, those with more somatic symptoms (10–13 symptoms) had a higher proportion of very poor QoL (50.0%) than those with fewer somatic complaints (p=0.027). Regarding illness duration, patients with GAD lasting more than 12 months showed a higher rate of poor or very poor QoL (73.9%) compared to those with illness duration under six months (p=0.041).

**Table 7.** Multivariate logistic regression of factors associated with poor QoL

Variable	Univariate OR (95% CI)	p-value	Multivariable OR (95% CI)	p-value
Stress present	3.48 (1.32–9.15)	0.012	3.15 (1.12–8.86)	0.028
Unemployed	2.91 (1.11–7.63)	0.030	2.74 (1.05–7.16)	0.041
Low income (<3 mil VND)	3.02 (1.16–7.88)	0.024	2.89 (1.09–7.66)	0.035
Illness duration $\geq 2$ years	3.56 (1.31–9.70)	0.013	3.45 (1.21–9.80)	0.021

Both univariate and multivariable analyses revealed that psychosocial and economic factors were significantly related to lower quality of life. In the multivariable ordinal logistic model, stress (AOR = 3.15, 95% CI: 1.12–8.86), unemployment (AOR = 2.74, 95% CI: 1.05–7.16), low income (AOR = 2.89, 95% CI: 1.09–7.66), and illness duration  $\geq 2$  years (AOR = 3.45, 95% CI: 1.21–9.80) remained independent predictors of poorer QoL.

## DISCUSSION

### General Characteristics of Patients

In this study, patients with generalized anxiety disorder were predominantly female and fell within the 30–49 age group. This pattern mirrors international epidemiological evidence showing that women are nearly twice as likely as men to be diagnosed with GAD and that the disorder is most frequently identified in middle adulthood<sup>1,6</sup>. Several explanations have been proposed for this gender disparity, including biological susceptibility, higher rates of stress exposure, and sociocultural expectations that influence coping styles. The high proportion of unemployed and low-income patients in our sample also reflects the strong relationship between GAD and socioeconomic disadvantage. Research has demonstrated that individuals with anxiety disorders are more vulnerable to job instability and financial stress, while at the same time, economic hardship can exacerbate anxiety symptoms, creating a bidirectional cycle<sup>7</sup>.

### Clinical Features of GAD

Clinically, all patients reported excessive worry, the hallmark feature of GAD, with high frequencies of irritability, nervousness, restlessness, and tension. These findings are consistent with the diagnostic profile of GAD and align with prior studies that highlight

hyperarousal and persistent worry as core drivers of impairment<sup>8</sup>. Somatic complaints such as chest pain, choking sensation, and muscle stiffness were less common but clinically important. Prior research emphasizes that these physical symptoms often lead patients to first seek care in non-psychiatric or primary care settings, thereby delaying appropriate diagnosis and treatment<sup>8</sup>. The overlap between psychological and somatic symptoms complicates clinical management and underscores the importance of comprehensive assessments in both psychiatric and general medical contexts.

### Quality of Life in Patients with GAD

Our study found that a majority of patients with generalized anxiety disorder (GAD) experienced poor or very poor quality of life (QoL), with impairments evident across all WHOQOL-BREF domains. The psychological and physical health dimensions were the most severely affected, with many patients reporting scores in the 40–59 range, reflecting substantial disruption to daily functioning and well-being. These results mirror findings from large-scale international studies showing that individuals with GAD consistently report significantly lower QoL compared to the general population, particularly in psychological functioning, vitality, and somatic health<sup>9</sup>. This is not surprising, given that GAD is

characterized by pervasive worry, heightened physiological arousal, and chronic somatic tension, which collectively erode mental resilience and physical capacity.

While social and environmental domains appeared relatively less impaired, scores were still suboptimal, suggesting that the negative effects of GAD extend beyond mental health into broader aspects of social interaction and living conditions. For instance, difficulties in maintaining close relationships and reduced participation in social activities are commonly reported in individuals with GAD, reinforcing the social burden of the disorder<sup>9</sup>. In our sample, none of the patients reported being satisfied with their health, further underlining the extent of dissatisfaction and diminished well-being. The findings highlight that GAD impacts not only symptom burden but also subjective life satisfaction, making QoL assessment an indispensable complement to clinical evaluation.

Importantly, these results underscore that QoL deficits in GAD cannot be explained by psychological symptoms alone. Broader contextual factors, such as economic hardship and social support, may also play a role. European population-based surveys have documented that anxiety disorders are associated with reduced social connectedness, poorer housing, and limited access to healthcare<sup>7,9</sup>. This convergence between clinical and socioeconomic factors emphasizes that interventions for GAD should not be confined to pharmacological or psychotherapeutic approaches but should also integrate social support systems and policy measures aimed at reducing structural disadvantages.

#### **Factors Associated with Poor QoL**

The analysis identified stress, unemployment, low income, and longer

illness duration as independent predictors of poor QoL among patients with GAD. Stress was the most salient factor, tripling the odds of poor QoL. This finding aligns with prior evidence that perceived stress magnifies anxiety symptoms, perpetuates maladaptive worry cycles, and accelerates psychological exhaustion<sup>10</sup>. Stress not only intensifies subjective suffering but also disrupts coping mechanisms, contributing to functional impairment across psychological, social, and physical domains.

Unemployment and low income were also strongly associated with poor QoL. This supports evidence from longitudinal and cross-national studies showing that economic disadvantage is both a determinant and a consequence of anxiety disorders<sup>7,10</sup>. Job loss or financial instability may trigger or exacerbate anxiety symptoms, while persistent anxiety reduces occupational performance and employability, reinforcing a vicious cycle of disability and poverty. A recent European cohort study confirmed that economic strain predicts persistent declines in mental health and life satisfaction, even after adjusting for clinical severity<sup>7</sup>. In the Vietnamese context, where social safety nets are limited, the negative consequences of unemployment and financial stress may be even more pronounced, explaining the high prevalence of poor QoL in this group.

Illness duration of two years or more also significantly predicted poor QoL. This observation is consistent with evidence that the chronicity of GAD leads to cumulative functional impairment and diminished life satisfaction<sup>11</sup>. Prolonged illness often brings about additional challenges, such as increased risk of comorbid depression, physical health decline, and social withdrawal, which further worsen QoL outcomes<sup>6,11</sup>. Chronic GAD may also reduce

treatment responsiveness, as long-term maladaptive cognitive and behavioral patterns become entrenched.

Together, these findings indicate that QoL in GAD is determined not only by symptom burden but also by broader psychosocial and temporal factors. Addressing stress management, enhancing economic resilience, and providing long-term supportive care may therefore be critical strategies in improving QoL. Evidence increasingly suggests that comprehensive interventions that combine cognitive-behavioral therapy, stress reduction techniques, and social or vocational rehabilitation yield greater improvements in QoL compared to symptom-focused treatment alone<sup>8,10</sup>. These insights point toward the need for integrated care models that recognize the multifaceted nature of QoL impairments in GAD.

### Strengths and Limitations

This study is among the few in Vietnam to comprehensively assess the quality of life of patients with generalized anxiety disorder, thereby contributing valuable local data to the limited literature. The use of standardized instruments and multivariate analysis strengthens the validity of the findings.

However, several limitations should be acknowledged. First, the cross-sectional design prevents causal inference regarding the associations observed. Second, the relatively small sample size may limit the generalizability of the results. Third, self-reported measures of QoL are subject to reporting bias. Future studies with larger samples and longitudinal designs are needed to confirm and expand these findings.

### CONCLUSION

Patients with generalized anxiety disorder experienced substantial impairments in quality of life across all domains, particularly

in psychological and physical health. Stress, unemployment, low income, and longer illness duration were independently associated with poor QoL. These findings underscore the need for comprehensive interventions that address both clinical symptoms and social determinants to improve the well-being of patients with GAD.

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