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Longitudinal Effects of Escitalopram on Quality of Life in Drug-Naive Generalized Anxiety Disorder Patients: A Six-Month Prospective Study

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Abstract

Purpose: The objective was to enlist individuals new to treatment for generalized anxiety disorder and assess their self-reported quality of life with the World Health Organization's Quality of Life brief version Questionnaire (WHOQoL-BREF). The study also aimed to compare the quality of life (QoL) measures pre- and post-treatment.

Methods: A six-month interventional study monitored 60 participants who had never received treatment for generalized anxiety disorder (GAD) and were diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria at a tertiary private hospital's outpatient psychiatry department in Udaipur. Using the Hamilton anxiety rating scale, the severity of GAD was measured. Participants were included based on their existing prescription for escitalopram, administered as a 10 mg once-daily dose. Four weeks post-prescription, the WHO-QoL-BREF questionnaire was employed to assess any shifts in quality of life.

Results: The study comprised 60 initial-treatment individuals with confirmed GAD diagnoses. The starting average WHOQoL-BREF score was 217.48. After four weeks of treatment with escitalopram, the average quality of life scores rose significantly to 276.48, indicating an average increase of 59 points and evidencing a marked improvement following treatment.

Conclusion: Escitalopram treatment was associated with significant QoL improvement in GAD patients. These outcomes underscore the necessity for effective treatment approaches for this disorder.

Introduction

Generalized anxiety disorder (GAD) is a prevalent mental health condition characterized by persistent and excessive worry not confined to specific situations.[1,2] This debilitating disorder manifests in a constellation of symptoms, including fatigue, nervousness, irritability, sleep disturbances, muscle tension, and palpitations, significantly impacting an individual's daily functioning.[3,4] The pervasive nature of GAD extends beyond immediate symptomology, often

co-occurring with major depression and carrying significant implications for an individual's overall quality of life (QoL).[5]

To assess QoL, this study utilizes the widely recognized World Health Organization's Quality of Life brief version Questionnaire (WHOQoL-BREF) scale.[6,7] This instrument has demonstrated validity and reliability in diverse populations and across various health conditions, including mental health disorders.[8,9] The choice of a four-week follow-up period is supported by existing literature, which suggests that initial treatment responses to selective serotonin reuptake inhibitors (SSRIs), including escitalopram, are often observed within this timeframe.[10] Prior research indicates the onset of treatment response in GAD often occurs within the initial weeks of SSRI administration. Furthermore, escitalopram is known to achieve steady-state plasma concentration after about one week of daily intake, with its clinical effects frequently emerging between the second and fourth weeks.[11] These findings are in alignment with clinical guidelines, which advocate for patient evaluation a few weeks post-commencement of SSRI therapy to ascertain effectiveness and tolerability. Therefore, the follow-up duration employed in our research is substantiated by both empirical evidence and the clinical protocol for the management of GAD, affirming the reliability of our post-treatment quality of life measurements.

While previous research has established the detrimental effects of GAD on QoL, there remains a need for further investigation into the specific impact of pharmacological interventions on QoL in this population. This research seeks to bridge this gap by examining the efficacy of escitalopram, a commonly prescribed SSRI, in improving QoL among drug-naive GAD patients. Recognizing the impact of GAD on QoL is crucial for effective clinical management.[12]

By evaluating changes in QoL before and after a four-week treatment regimen of escitalopram (10 mg daily), this study aims to contribute valuable insights into the potential of pharmacological interventions to improve the overall well-being of drug-naïve individuals living with GAD. Outcomes will be assessed at two critical junctures: baseline (pre-treatment) and post-treatment, facilitating a robust evaluation of the treatment's prospective benefits.

Aims/Objectives

The main goal of this study is to evaluate the impact of a 4-week escitalopram treatment regimen on the QoL of drug-naïve patients diagnosed with GAD. This will be achieved by:

- Evaluating the QoL of GAD patients at baseline (pre-treatment) using the WHOQoL-BREF scale.
- Evaluating the QoL of GAD patients after four weeks of escitalopram treatment using the WHOQOL-BREF scale.
- Comparing the QoL scores at baseline and post-treatment to determine the efficacy of escitalopram in improving QoL among the study participants.

Methodology

Study Setting

This interventional follow-up study was carried out at the psychiatric outpatient division of Geetanjali Medical College and Hospital, Udaipur. The Institutional Ethics Committee sanctioned the research (Reference No. GU/HREC/EC/2022/2/37) on Oct 3, 2022. Participants received a complete briefing on the study's purpose and procedures, and after providing written informed consent, they were included in the research.

Study Design

This research employed a pre-post interventional design to investigate the impact of escitalopram on the quality of life of drug-naïve patients diagnosed with GAD.

Selection and Description of Study Participants

The research included 60 patients diagnosed with generalized anxiety disorder who attended the psychiatry outpatient department. Informed consent was collected from the patients and trustworthy informants. In instances involving individuals less than 18 years of age, the consent form was signed by the parent or legal guardian.

Inclusion criteria

- Outpatient
- Age ≥ 18 and ≤ 60 years
- Diagnosed with GAD according to Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria
- Understanding of basic Hindi or English
- Willingness to provide written informed consent

Exclusion criteria

- Any comorbid psychiatric disorder
- Age < 18 and > 60 years
- Pregnant women
- Lactating mothers

Enrollment and Follow-Up Procedure

Patients who visited the psychiatry outpatient department met the inclusion criteria, and provided written informed consent were subsequently enrolled in the study. Baseline assessments, including the WHOQoL-BREF, were administered by trained research staff. Participants then received a standard dose of escitalopram (10 mg daily) for four weeks.

Following the four-week treatment period, participants returned for a follow-up assessment, during which the WHOQoL-BREF was re-administered by the same trained research staff who conducted the baseline assessment. This ensured consistency in data collection and minimized potential bias.

Duration of Observation

The total duration of observation for each participant was four weeks, with assessments conducted at two-time points: baseline (pre-treatment) and post-treatment (four weeks after initiating escitalopram).

Study Materials

Sociodemographic detail and clinical characteristics

Data obtained include details regarding age, gender, height, weight, education, social and economic status, occupation, residential status, region, religion, marital condition, history of alcohol, history of smoking, family history of anxiety disorder, Hamilton Anxiety Rating Scale (HAMA) score, and Health-related quality of life (HRQoL) by WHOQoL-BREF scale.

The WHOQoL-BREF questionnaire

It is a broadly used questionnaire that measures well-being in healthy and ill populations.[5] It consists of 26 questions divided into four domains, along with general wellness and QoL items. Each question is evaluated on the 1 to 5 scale, and results are converted to values between a score range of 0 to 100.[13]

Hamilton anxiety severity scale

The HAMA comprises 14 questions used to gauge the intensity of a patient's anxiety.[14] The HAMA has been used to categorize the severity of GAD symptoms and has demonstrated its sensitivity to changes in anxiety and depressive disorders.[15]

Kuppuswamy socioeconomic scale

The Kuppuswamy socioeconomic scale is a tool that assesses families based on three factors: educational background, professional status, and cumulative income. The cumulative score on this scale can vary from 3 to 29. It segments families into five distinct categories: those who belong to the "upper class," "upper middle class," "lower middle class," "upper lower class," and those from the "lower socioeconomic class.[16]

Diagnostic and statistical manual for mental disorders, fifth edition

We follow the diagnostic guidelines for GAD published in the DSM-5.

Statistical Evaluation

To characterize the demographic and clinical profile of our study cohort, we calculated descriptive statistics comprising mean values, frequency counts, percentage rates, and measures of standard deviation. Comparative analysis of pre-treatment and post-treatment data was conducted using a paired sample t-test. All study variables were compiled in a Microsoft Excel spreadsheet and subsequently analyzed with SPSS software (version 25) for Windows to generate the requisite statistical data.

Table 1: Occurrence of generalized anxiety disorder across various sociodemographic variables

Variables	*(n = 60)*	*(%)*
Sex		
Male	44	73.4
Female	16	26.6
Area		
Rural	22	36.6
Urban	38	63.4
Marital status		
Single	19	31.6
Married	41	68.4
History of alcohol		
Present	11	18.3
Absent	49	81.7
Religion		
Hindu	58	96.6
Muslim	2	3.4
History of smoking		
Present	10	16.6
Absent	50	83.4
Family history of anxiety disorder		
Present	5	8.4
Absent	55	91.6
Kuppuswamy socioeconomic scale **		
Upper	1	1.6
Upper middle	20	33.4
Lower middle	23	38.4
Upper lower	16	26.6
Lower	0	0

** Saleem SM, Jan SS. Modified Kuppuswamy socioeconomic scale updated for the year 2021. Indian J Forensic Community Med 2021;8(1):1-3

Results

The study cohort consisted of 60 drug-naïve patients diagnosed with GAD according to DSM-5 criteria who participated in the research and completed the 4-week escitalopram regimen and follow-up assessment. The mean age of the participants was 35.6 years (SD = 11.8), and the mean body mass index (BMI) was 25.7 (SD = 4.1). Most participants (Table 1) were male (73.3%), married (68.3%), resided in urban areas (63.3%), and identified as Hindu (96.7%). Most participants did not have a history of alcohol consumption (81.7%) or smoking (83.3%), and 91.7% reported no family history of anxiety disorder.

At baseline, the mean HAM-A score was 16.01 (SD = 6.50), with 20% of participants exhibiting moderate to severe anxiety. The mean WHOQoL-BREF score at baseline was 217.48, with a psychological domain score of 45.76 (SD = 12.42).

All 60 participants completed the 4-week escitalopram regimen and follow-up assessment. Following treatment, the mean HAM-A score significantly decreased to 12.1 (SD = 5.45). Table 2 presents the comparative analysis of WHOQoL-BREF scores pre- and post-intervention, with notable improvements observed, particularly within the psychological domain. A paired sample t-test revealed a significant improvement in WHOQoL-BREF scores. The mean WHOQoL-BREF score significantly increased to 276.48, a mean difference of 59 points ($p < 0.005$). This improvement was observed across all WHOQoL-BREF domains, with particularly notable enhancements in the psychological domain. The psychological domain score significantly improved to 65.55 (SD = 10.02) post-treatment, with a mean difference of -19.79 (t = -12.01, $p < 0.005$). These findings suggest that escitalopram treatment led to significant improvements in the overall quality of life for patients with GAD, particularly in the psychological domain. No side effects were reported during the study.

Discussion

In our study, we evaluated the effects of escitalopram on the QoL of 60 participants with GAD, who had not previously received psychiatric medications. Using the HAMA scale, we assessed GAD severity at baseline, and participants were monitored over four weeks while receiving standard clinical care, including a daily dose of 10 mg of escitalopram. Post-treatment, we measured their QoL using the WHOQoL-BREF questionnaire to assess the real-

Table 2: Comparison of domain-wise scores of WHOQoL - BREF scale pre- and post-treatment application among patients (n = 60)

Domains	*Pre- treatment*	*Post- treatment*	*Mean difference*	*T-test value*	*Paired T-test*
	Mean ± S.D.	*Mean ± S.D.*			
Physical	49.04 ± 12.35	65.59 ± 9.77	-16.54	t value = -9.20	($p < 0.005$)**
Psychological	45.76 ± 12.42	65.55 ± 10.02	-19.79	t value = -12.01	($p < 0.005$)**
Social relations	58.88 ± 18.96	69.72 ± 14.79	-10.83	t value = -7.22	($p < 0.005$)**
Environment	63.80 ± 13.12	75.62 ± 13.06	-11.82	t value = -8.56	($p < 0.005$)**
Total	217.48 ± 56.84	276.48 ± 47.64	-59	t value = -36.99	($p < 0.005$)**

$p > 0.05$; Not significant; * $p < 0.05$; Significant; ** very high significance at $p \leq 0.005$

world outcomes associated with routine escitalopram use in GAD.

Our findings corroborate existing literature that underscores the significant negative effect of GAD on QoL, particularly in older adults. Wetherell *et al*. highlighted that GAD can be more detrimental to QoL than some chronic physical conditions, emphasizing the need for comprehensive treatment strategies addressing both psychiatric and somatic aspects of the disorder.[17] Our study's results—showing improved WHOQoL-BREF scores following escitalopram treatment—support these findings and reinforce the crucial role of SSRIs in enhancing functional outcomes for GAD patients.

Baseline QoL assessments in our study reflected the compromised well-being typical of GAD patients, consistent with Chang *et al*.'s research on the negative correlation between mental health disorders and QoL.[18] Post-treatment improvements were significant across all QoL domains: physical health (M = 65.59, SD = 9.77), psychological health (M = 65.55, SD = 10.02), social relationships (M = 69.72, SD = 14.79), and environmental health (M = 75.62, SD = 13.06). This substantial increase in mean QoL scores by 59 points, with a 'T' value of -36.99 ($p < 0.005$), highlights the efficacy of escitalopram in improving patients' overall well-being.

These findings align with Silvestri *et al*.'s work on escitalopram's impact on mood enhancement, sleep quality, and vasomotor symptoms,[19] as well as Stein *et al*.'s examination of escitalopram's efficacy across various subgroups.[20] Additionally, our results reflect the research by Lenze *et al*., which reported a decrease in cortisol levels among older adults with GAD following escitalopram treatment,[21] and Ramsberg *et al*.'s findings on the cost-effectiveness of escitalopram.[22] The high efficacy, tolerability, and remission rates associated with escitalopram, as noted by Dzevlan *et al*., further reinforce its role in improving depressive symptoms and QOL.[23]

The marked improvement in QoL, as documented in our study, supports the view that effective treatment for GAD not only alleviates symptoms but also enhances overall life satisfaction. This is consistent with Mendlowicz and Stein's documentation of the extensive consequences of GAD on daily functioning and the effectiveness of SSRIs like fluvoxamine in improving QoL.[24]

Our results emphasize the importance of a holistic approach to treating GAD—one that considers both symptomatic relief and comprehensive well-being. Future research should explore the long-term sustainability of these effects and the generalizability of our findings to larger and more diverse populations.

In conclusion, our study contributes to the growing body of evidence supporting escitalopram as a first-line treatment for GAD, demonstrating its significant benefits in improving various aspects of QoL. This aligns with previous research that highlights the advantages of SSRIs in managing anxiety disorders[25] and suggests that integrative treatment approaches, addressing both psychological and psychosocial factors, may offer additional benefits.[26]

Study Limitations

There are several limitations to this study that should be taken into account. The lack of a comparison group without generalized anxiety disorder makes

it impossible to definitively attribute observed differences in quality of life to GAD. Additionally, the absence of a placebo-controlled group limits the ability to determine the specific effectiveness of the clinical interventions used. The small sample size of 60 GAD patients restricts the power of statistical analysis and may limit the generalizability of the findings. Furthermore, the study's conduct in a private setting may not accurately reflect the experiences of individuals with GAD in other settings. Finally, the study's cross-sectional design prevents conclusions about the long-term course and prognosis of GAD, particularly in patients with psychiatric comorbidities. Longitudinal studies are necessary to address this limitation.

Conclusion

This study highlights that the administration of escitalopram markedly improves QoL in patients with GAD. The significant elevation in WHOQoL-BREF scores post-treatment reflects the efficacy of escitalopram as a fundamental modality in managing GAD symptoms. These findings affirm the crucial role of appropriate pharmacological intervention in the treatment of GAD and its positive impact on overall patient well-being. Comprehensive patient evaluations and continuous monitoring for therapeutic efficacy and safety should guide the discretion to implement this treatment.

The novel insights provided by this study contribute to the body of evidence supporting the use of escitalopram in the initial treatment phase of GAD, endorsing further research into long-term patient outcomes and optimization of therapeutic strategies.

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Competing Interests

The authors have no relevant financial or non-financial interests to disclose.

Author Contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Chetan Choudhary, Rishabh Tripathi, Jishi Joshi Joseph, Jitendra Jeenger and Kalpesh Gaur. The first draft of the manuscript was written by Chetan Choudhary and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Ethics Approval

The Institutional Ethics Committee sanctioned the research (Reference No. GU/HREC/EC/2022/2/37). This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Ethics Committee of Geetanjali University on Oct 3, 2022

Consent to Participate

Participants received a complete briefing on the study's purpose and procedures, and after providing written informed consent, they were included in the research.

Consent for Publication

The authors affirm that human research participants provided informed consent for publication of the data.

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