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Investigation of Treatment Adherence and Life Satisfaction in Psychiatric Patients Treated with Electroconvulsive Therapy: A cross-sectional study

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Abstract

Background & Objectives: Electroconvulsive therapy (ECT) is a medical intervention primarily used in the treatment of psychiatric disorders such as refractory major depression, refractory bipolar disorder, and refractory schizophrenia among patients not responding to other therapeutic modalities. The present study aimed to examine treatment adherence and life satisfaction among psychiatric patients receiving ECT.

Materials and Methods: This descriptive-analytical, cross-sectional study was conducted in 2024 and included 200 psychiatric in-patients undergoing electroconvulsive therapy at Shariati Hospital in Fasa, southern Iran. Participants were selected through convenience sampling. Data were collected using three instruments: a demographic questionnaire, the Diener Satisfaction with Life Scale (SWLS), and the Treatment Adherence Questionnaire developed by Fatemi et al. Statistical analysis was performed using SPSS version 25, with multiple regression analysis and Pearson's correlation coefficient used to examine the relationships among variables.

Results: Among the participants, 66% (n = 132) were male and 34% (n = 68) were female. The mean scores for treatment adherence and life satisfaction were 80.02 ± 29.7 and 20.4 ± 8.03, respectively. No significant correlation was found between treatment adherence and life satisfaction (r = -0.086, p = 0.22). However, a significant positive correlation was observed between treatment adherence and the number of ECT sessions (r = 0.13, p = 0.05).

Conclusion: In light of these findings, clinicians and mental health practitioners are encouraged to adopt evidence-based frameworks designed to promote treatment adherence, thereby improving patient outcomes and enhancing overall life satisfaction. Failure to address adherence, particularly among vulnerable patient subgroups, may lead to substantial personal and social consequences.

Keywords: Electroconvulsive therapy; treatment adherence; life satisfaction; psychiatric patients

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Introduction

For nearly 80 years, electroconvulsive therapy (ECT) has remained an effective and appropriate treatment for a range of psychiatric disorders (1).

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Psychiatric disorders encompass a broad spectrum of conditions, including mood disorders such as depression and bipolar disorder, as well as anxiety disorders, schizophrenia, and other severe mental illnesses. The epidemiology of these disorders is inherently complex because of the heterogeneity of symptoms and the multifaceted interaction of genetic, environmental, and sociocultural determinants (2, 3). ECT is a medical procedure primarily indicated for mental disorders such as depression, schizophrenia, and bipolar disorder when these conditions have shown resistance to pharmacological or psychotherapeutic interventions. The treatment involves the administration of a controlled electrical stimulus to the brain to induce a brief generalized seizure. Although concerns remain regarding potential adverse effects, particularly memory impairment, ECT continues to serve as a critical therapeutic modality for select psychiatric conditions, especially when rapid symptom relief is required or when conventional treatments have failed (4).

Treatment adherence among patients with psychiatric disorders is widely recognized as a pivotal determinant of therapeutic success and long-term recovery. Compliance with prescribed therapeutic regimens, whether pharmacological or psychological, remains one of the most pressing yet insufficiently explored issues in the Iranian mental health context. A substantial proportion of patients do not follow medical recommendations, resulting in a cascade of negative consequences, including increased economic, physical, and social burdens for both individuals and society at large (5). Nonadherence is often associated with poor symptom control, higher relapse rates, and an increased risk of rehospitalization. Therefore, consistent adherence is essential not only for achieving favorable clinical outcomes but also for preserving overall psychosocial functioning in psychiatric populations (6).

Life satisfaction is a key indicator of mental health and has been closely linked to general health outcomes. It is considered a predictive factor for both illness onset and mortality and has a direct impact on various health-related behaviors, levels of perceived social support, and subjective evaluations of well-being. Conversely, low life satisfaction has been associated with numerous health risk factors, including harmful behavioral patterns and impaired psychosocial functioning (7).

The relationship among life satisfaction, ECT, and treatment adherence in individuals with psychiatric disorders is complex and multidimensional. Higher levels of life satisfaction may promote sustained engagement in therapeutic activities, foster positive health behaviors, and reinforce adherence to prescribed treatments. In turn, improved adherence is likely to lead to more favorable clinical outcomes and a more positive appraisal of life circumstances (8).

Rajagopal et al. (2013) investigated patient and family satisfaction with ECT and found that, although the majority of participants, especially relatives, expressed overall satisfaction, concerns were raised about fear of the procedure, insufficient information, and the possibility of cognitive side effects (9). In a study conducted by Ali Ashraf Jodat et al. (2019) on satisfaction with post-ECT pain management, reflexology massage significantly reduced pain intensity and improved overall satisfaction with pain control among patients with depression (10). Similarly, Goodman et al. reported that patients who had received ECT expressed greater satisfaction and held more favorable attitudes toward the therapy than those who had not undergone the procedure (11). Fathy et al. (2024) also identified a statistically significant positive correlation between patients' satisfaction with ECT and their general attitudes toward its use (12). Furthermore, Samalin et al. (2020), in a national review conducted in France, emphasized the importance of improving public knowledge about ECT and access to the treatment in order

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to narrow the gap between evidence-based clinical guidelines and routine psychiatric practice (13). A recent study by Oflezer et al. (2024) highlighted the critical need for close monitoring and proactive management of ECT-related side effects to safeguard patient well-being and optimize therapeutic efficacy (14).

The present study was undertaken to further explore the complex relationship between ECT and treatment adherence in psychiatric populations. Investigating this association may provide valuable insights into the extent to which ECT influences patients' motivation and capacity to comply with prescribed therapeutic protocols. Moreover, the findings may inform the development of evidence-based clinical strategies aimed at maximizing the therapeutic benefits of ECT while minimizing psychological distress and adverse outcomes. Conducting this study in the psychiatric ward of Shariati Hospital in Fasa, a city in southern Iran, offers a unique opportunity to contribute meaningful data to the existing literature by focusing on a specific regional population and their lived experiences of ECT. Accordingly, the present study was designed to examine treatment adherence and life satisfaction among psychiatric patients undergoing ECT in southern Iran.

Materials and Methods

Study Design and Participants

This descriptive-analytical cross-sectional study was conducted in 2024 among 200 psychiatric patients undergoing ECT at Shariati Hospital in Fasa, southern Iran. Participants were selected through convenience sampling according to clearly defined inclusion and exclusion criteria. The inclusion criteria were receiving ECT at the time of the study, providing informed consent, and being willing to participate. The exclusion criteria were lack of cooperation in completing the study and unwillingness to participate. To minimize bias, all questionnaires were completed by the researcher for all participants, regardless of literacy level. In addition, to avoid response induction, all questions were read verbatim without emphasis on any words.

Data Collection Instruments

Data were collected using a demographic characteristics form and two psychometrically validated questionnaires. The demographic form included age, sex, employment status, marital status, educational attainment, history of chronic illness, previous psychiatric hospitalization, number of ECT sessions, and use of analgesic medications. The standardized instruments used in this study were the Diener Satisfaction with Life Scale (SWLS) and the Fatemi et al. Treatment Adherence Questionnaire.

Treatment Adherence Questionnaire

The treatment adherence questionnaire was developed and psychometrically validated in Medanloo's thesis in 2013 for patients with chronic diseases. In Medanloo's study (15), the mean content validity index of the questionnaire was 0.91. Its internal consistency, assessed using Cronbach's alpha, was 0.921, and its test-retest reliability, measured over a two-week interval, yielded a correlation coefficient of 0.875. The instrument comprises 40 items organized into seven subscales: treatment commitment (9 items), willingness to participate in treatment (7 items), ability to integrate treatment into daily life (7 items), treatment-life integration (5 items), persistence with treatment (4 items), treatment obligation (5 items), and treatment implementation strategies (3 items). Responses are scored on a six-point Likert scale ranging from strongly agree to not at all, corresponding to the options completely, very much, much, little, very little, and not at all, scored from 5 to 0, respectively. Total scores are then converted into percentages and interpreted as follows: 75–100% indicates excellent adherence, 50–74% good adherence, 26–49% moderate adherence, and 0–25% poor adherence (15). In the present study, Cronbach's alpha was 0.87, indicating high reliability for the scale.

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Diener's Satisfaction with Life Scale (SWLS)

SWLS, originally developed by Diener and colleagues in 1989, is designed to assess individuals' cognitive evaluations of their overall life satisfaction, with particular emphasis on positive life experiences. The scale consists of five declarative statements, each rated on a 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). The total score ranges from 5 to 35, with higher scores indicating greater subjective life satisfaction (16). In the Iranian context, the scale was translated and psychometrically validated by Sameie et al. (2024), who reported a Cronbach's alpha coefficient of 0.88 for the Persian version, confirming strong internal consistency (17). In the present study, Cronbach's alpha for the SWLS was 0.89, further confirming the scale's reliability.

Data Analysis

Data were analyzed using SPSS version 25. Participant characteristics were summarized using descriptive statistics, including the mean, standard deviation, frequency, and percentage. Pearson's correlation coefficient was used for inferential analysis, one-way analysis of variance (ANOVA) was applied for group comparisons, and multiple linear regression models were used for multivariable analysis. The normality assumption was assessed using the Kolmogorov-Smirnov test. Multiple linear regression with the simultaneous Enter method was performed to examine the predictive effects of demographic characteristics and life satisfaction on treatment adherence. The level of statistical significance was set at $p < 0.05$.

Results

Among the 200 participants included in this study, 66% (n = 132) were male and 34% (n = 68) were female. Regarding marital status, 53.5%

Table 1. Demographic Characteristics of Study Participants (N=200).

Variable	Terms	Frequency (n)	Percentage (%)
Gender	Female	68	34
	Male	132	66
Marital Status	Single	93	46.5
	Married	107	53.5
Educational Level	Illiterate	23	11.5
	Diploma	131	65.5
	Academic	46	23
Employment Status	Housewife	37	18.5
	Unemployed	67	33.5
	Self-employed	74	37
	Employed (by Government)	22	11
Analgesic consumption	Yes	128	64
	No	72	36
chronic illness	Yes	35	17.5
	No	165	82.5
Hospitalization history	Yes	167	83.5
	No	33	16.5

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(n = 107) were married and 46.5% (n = 93) were single. In terms of educational attainment, 65.5% (n = 131) had a high school diploma, whereas 23% (n = 46) had completed university education. With respect to employment status, 37% (n = 74) were self-employed and 11% (n = 22) were formally employed. In addition, 17.5% (n = 35) reported a chronic medical condition, and 83.5% of the participants had a history of psychiatric hospitalization. A detailed summary of the demographic characteristics of the study population is presented in Table 1.

The mean treatment adherence score was 80.02 ± 29.7, and the mean life satisfaction score was 20.4 ± 8.03. The mean age of the participants was 38.9 ± 10.7 years, and the average number of ECT sessions was 6.2 ± 4.3 (Table 2).

Table 2. Distribution of Adherence to Treatment and Life Satisfaction Scores Among Study Participants.

Variable	Frequency (n)	Minimum	Maximum	Mean ± SD
Adherence to Treatment	200	13	144	80.02±29.7
Life Satisfaction	200	5	35	20.4±8.03
Age	200	15	72	38.9±10.7
Number of shock therapy sessions	200	0	50	6.2±4.3

Table 3. Frequency of treatment adherence in Study Participants (n=200).

Level of treatment adherence	Number (%)
High (75 – 100%)	51(25.5)
Acceptable (50 – 74%)	50(25)
Moderate (26 – 49%)	53(26.5)
Low (0 – 25%)	46(23)
Total	200 (100)

Table 4. Distribution of Adherence to Treatment and Life Satisfaction Scores by Demographic Characteristics.

Variable	Group	Adherence to Treatment Mean ± SD	(P-value)	Life Satisfaction Mean ± SD	(P-value)
Gender	Female	84.5±28.55	0.12	20.4±4.42	0.91*
	Male	77.6±30.2		21.1±7.91	
Marital Status	Single	83.5±28.2	0.14	19.6±7.5	0.15**
	Married	74.1±30.8		21.1±8.4	
Number of ECT	Yes	81.9±28.7	0.07	20.1±8.1	0.21*
	No	72.8±32.5		21.6±7.5	
Chronic illness	Yes	80.45±31.3	0.82	15.1±8.2	0.001*
	No	79.9±29.5		21.5±7.5	
Hospitalization history	Yes	81.6±30.3	0.05	19.3±8.1	0.04*
	No	71.6±25.3		23.06±6.68	
Analgesic consumption	Yes	80.6±31.1	0.13	20.3±7.8	0.36*
	No	79.2±27.5		20.5±8.4	
Educational Level	Illiterate	92.9±26.5	0.01	17.5±8.21	0.07**
	Diploma	81.07±29.4		19.4±7.1	
	Academic	70.5±29.7		21.3±8.21	
Employment Status	Housewife	25.2±91.7	0.03	6.5±18.1	0.21**
	Unemployed	28.8±80.1		7.1±17.9	
	Self-employed	30.5±74.6		8.9±22.5	
	Employed (by Government)	33.2±78.01		7.6±22.4	

*Chi- square test; **one-way ANOVA p-value <0.05 considered statistically significant

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The findings showed that 25.5% of the patients had high treatment adherence, 25% had moderate adherence, and 23% had low adherence (Table 3). Chi-square tests and one-way ANOVA revealed significant associations between treatment adherence and several demographic and clinical variables, including educational level (p = 0.01), hospitalization history (p = 0.05), and employment status (p = 0.03). Life satisfaction was also significantly associated with chronic illness (p = 0.001) (Table 4).

Table 5 presents the Pearson correlation coefficients for the associations between treatment adherence and life satisfaction, as well as the relationships of these variables with age and the number of ECT sessions. No significant correlation was found between treatment adherence and life satisfaction (r = -0.086, p = 0.22). In addition, treatment adherence was positively correlated with the number of ECT sessions (r = 0.13, p = 0.05). No significant correlation was observed between life satisfaction and age or the number of ECT sessions. The number of ECT sessions was also negatively correlated with age (r = -0.16, p = 0.02) (Table 5).

Multiple linear regression analysis showed that chronic illness, marital status, employment status, and educational level were significant

Table 5. Correlation Analysis of Demographic Characteristics, Adherence to Treatment and Life Satisfaction.

Variable		Adherence	Life Satisfaction	Age	Number of ECT
Adherence	Pearson Correlation	1	0.086-	0.043	0.13
	Sig. (2-tailed)		0.22	0.55	0.05
Life Satisfaction	Pearson Correlation	0.086-	1	0.01-	-0. 02
	Sig. (2-tailed)	0.22		0.79	0.70
Age	Pearson Correlation	0.043	0.01-	1	0.16-
	Sig. (2-tailed)	0.55	0.79		0.02
Number of ECT	Pearson Correlation	0.13	-0. 02	0.16-	1
	Sig. (2-tailed)	0.05	0.70	0.02	

r: Pearson correlation coefficient

Table 6. Multiple Linear Regression Analysis Examining the Relationship between Predictor Variables and Adherence to Treatment.

Variable		B	SE	Beta	t	Sig.	Lower Bound	Upper Bound
Constant		99.38	14.9	—	6.63	0.000	69.8	128.9
Number of ECT		0.5	0.33	0.11	1.50	0.13	-0.15	1.15
Sex		-1.93	5.56	-0.031	-0.34	0.72	-12.9	9.04
Marital Status		-10.34	4.7	-0.17	-2.17	0.031	-19.7	-0.95
Hospitalization history		5.53	5.84	0.06	0.94	0.34	-6.004	17.07
chronic illness		9.62	4.7	0.152	2.044	0.042	0.33	18.9
Employment Status	House	Ref						
	Unemployed	-15.9	7.001	-0.253	-2.27	0.024	-29.7	-2.12
	Self-employed	-16.1	7.23	0.262	-2.234	0.027	-30.4	-1.8
	Employed (by Government)	-4.09	8.69	-0.043	-0.047	0.63	-21.2	13.06
Level of Education	Illiterate	Ref						
	Diploma	-4.26	6.92	-0.068	-0.616	0.53	-17.9	9.39
	Academic	-22.3	7.7	-0.316	-2.89	0.004	-37.4	-7.1
Age		0.11	0.24	0.04	0.45	0.65	-0.37	0.59
Adherence to Treatment		R=0.45, R square=0.203, f=3.1, p<0.001						

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predictors of treatment adherence and its subdomains. Collectively, these variables explained approximately 20% of the variance in treatment adherence (Table 6).

Discussion

In the present study, treatment adherence and life satisfaction among psychiatric patients receiving ECT in southern Iran were examined. The overall treatment adherence score was 80.02 ± 29.7, indicating a satisfactory level of adherence, whereas the overall life satisfaction score was 20.4 ± 8.03, reflecting a moderate level of subjective well-being. Life satisfaction is widely recognized as an important indicator of psychological well-being in individuals with psychiatric disorders. Previous research has generally shown that higher levels of life satisfaction are associated with better treatment adherence. For example, Jneid et al. (2018) reported that better adherence, greater satisfaction, and improved quality of life were interrelated (18). Likewise, as demonstrated in prior studies, ECT has been shown to be an effective treatment for reducing depressive symptoms and improving quality of life in patients with severe psychiatric disorders. There is empirical support for the view that ECT exerts a beneficial effect on patients' perceptions of well-being. Selva-Sevilla et al. (2016) reported improved psychological well-being and life satisfaction following ECT (19), and Giacobbe et al. (2018) found significant improvements in health-related quality of life (20). Similarly, Garg et al. (2011) showed that ECT improves quality of life in patients with treatment-resistant schizophrenia (21), while Navidian et al. (2015) highlighted the role of supportive nursing care in enhancing patient satisfaction with ECT (22). Furthermore, Tan et al. (2022) reported that ECT also contributed to improved quality of life in patients with schizophrenia (23).

However, the findings across studies are not entirely consistent. For instance, some patients have reported dissatisfaction with treatment because of concerns about adverse effects, and such concerns may negatively affect treatment adherence, as reported by Chakrabarti et al. (2010). Treatment adherence, that is, the extent to which patients follow medical interventions such as ECT, is a crucial determinant of clinical outcomes (24). Chakrabarti et al. (2016) emphasized that adherence is more likely when patients' preferences are acknowledged and respected. This point is particularly relevant to ECT, which is often accompanied by apprehension. An inadequate response to treatment may undermine adherence and, consequently, reduce treatment effectiveness (25). In the present study, 50.5% of participants demonstrated high or acceptable adherence, whereas 49.5% exhibited moderate to low adherence. These findings are consistent with previous studies showing that nonadherence is a major contributor to symptom relapse and rehospitalization, especially among patients with bipolar disorder and schizophrenia (26).

The observed range of adherence suggests that it is a multifaceted phenomenon influenced by individual, clinical, and contextual factors. Hospitalization history, educational level, and employment status were all significantly associated with treatment adherence. A similar relationship between hospitalization history and treatment adherence was reported by Roshan Ghias et al. (27). In contrast, Ali Safaee and Ashktorab (2023) found no association between hospitalization history and the severity of treatment adherence in patients with heart failure (28). These differences may be attributed to the multifactorial nature of treatment adherence, which makes interpretation on the basis of a single variable difficult. A history of hospitalization may have acted as a stimulus for better adherence, perhaps because of the challenges of hospitalization, the need to adapt to the hospital environment, separation from family and community, and the disruption of employment and responsibilities.

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A significant association between educational level and treatment adherence was reported by Pietrzykowski et al. (2020), which is consistent with the findings of the present study. Likewise, a review study demonstrated a relationship between educational level and treatment adherence (29).

We also found that adherence was positively associated with employment status, which may be explained by greater financial stability, a more structured daily routine, better access to health services, and health insurance coverage. The strong associations between adherence and both educational level and employment status suggest that treatment self-management is strengthened by favorable socioeconomic conditions and higher levels of education, which, in turn, are associated with greater illness insight and improved access to information. These findings are consistent with those of Murru et al. (2013), who emphasized the importance of socioeconomic and cognitive factors in adherence (26).

In this study, no significant association was found between marital status and treatment adherence. Garg et al. (2011) also reported that, although 66.7% of their participants were single, marital status had no significant effect on adherence (21).

Chronic illness and hospitalization history were significantly associated with life satisfaction. Accordingly, these variables may be useful in predicting life satisfaction among patients receiving ECT. The findings of the present study are similar to those of Jamali Moghaddam and Bastani (2019), who reported a statistically significant relationship between life satisfaction and chronic diseases, including hypertension, diabetes, joint pain, respiratory diseases, and other conditions (30). Similarly, De Prophetis et al. (2022) showed that life satisfaction was associated with hospitalizations for ambulatory care-sensitive conditions, even after adjustment for socioeconomic characteristics, health behaviors, comorbidities, and mental health factors (31).

Several studies have reported that ECT is associated with overall improvements in quality of life and patient satisfaction among individuals with schizophrenia. Among patients receiving ECT, greater improvement in psychiatric symptoms has been significantly associated with better mental health, while improved cognitive function has been linked to better physical health (24). In the present study, unexpectedly, sex did not significantly influence either adherence or life satisfaction. This finding is inconsistent with previous reports, including that of Sajatovic et al. (2006), who found poorer adherence among male patients. This discrepancy may be due to sample characteristics or to unidentified confounding factors (32). Sedative medications were not significantly associated with either outcome. In addition, no significant correlation was found between treatment adherence and life satisfaction. Daneshfar et al. (2023) similarly reported no significant relationship between life expectancy and treatment adherence, which is consistent with the findings of the present study (33). Moreover, Nunes et al. (2001) likewise found no significant difference in quality of life between adherent and nonadherent patients, corroborating the present findings (34). By contrast, Roudsari et al. (2013) reported a significant relationship between quality of life and treatment adherence (35).

In another study conducted by Salehi et al. (2017), no significant relationship was found between adherence to the treatment regimen and quality of life, which is consistent with the findings of the present study (36). Similarly, Saleem et al. (2001), in a study of patients with hypertension in Pakistan, concluded that adherence to the treatment regimen does not predict patients' quality of life (37). By contrast, other studies have reported that adherence to treatment is associated with life satisfaction. The differences observed across studies may be explained by several factors, including

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sociocultural context, research setting, the instruments used to measure life satisfaction and treatment adherence, sample size and timing, the nature of the disease, and individual and demographic variables (38).

Adherence appears to facilitate better symptom control and may, in turn, promote more favorable psychological outcomes. In the present study, the weak positive correlation between the number of ECT sessions and treatment adherence suggests that longer exposure to treatment, possibly because of greater symptom severity or better therapeutic response, may be associated with greater adherence. A strong negative correlation was also found between age and the number of ECT sessions, indicating that younger patients undergo more ECT sessions. This finding may reflect differences in treatment approaches or variability in responsiveness to ECT across age groups.

Notably, no significant relationship was found between age and treatment adherence or between age and life satisfaction. Although age may not be an independent predictor, it may interact with other variables and therefore warrants further investigation. Giacobbe et al. (2018) suggested that "age could be considered as a moderating variable in the effects on post-ECT improvements in quality of life" (20), which may pose a challenge for younger patients, as also noted by Garg et al. (2009) (21). Importantly, no significant correlation was observed between the number of ECT sessions and life satisfaction, suggesting that, although ECT may alleviate symptoms, the number of sessions is not directly associated with life satisfaction. Overall, the results of the present study are broadly consistent with findings reported in the international literature, particularly those emphasizing the role of social and socioeconomic support in improving treatment adherence. Nevertheless, the findings also indicate that research approaches should be adapted to cultural and demographic differences, especially with regard to gender.

Given the complexity of the factors associated with adherence and life satisfaction, caution is warranted in generalizing these findings to other populations. Future studies should examine context-specific variables in order to develop evidence-based interventions tailored to particular settings.

Limitations

The present study used convenience sampling, which may have introduced selection bias. Future studies should consider random or stratified sampling to improve generalizability. Moreover, because this was a cross-sectional study with a descriptive design, causal relationships between variables could not be established. In addition, attitudes and behaviors may change over time, which may have influenced the findings. Further research using interventional, longitudinal, and cohort designs, larger sample sizes, and psychological, social, and cultural variables is recommended to improve understanding of the study constructs. Because data were collected through self-report measures, the results may have been overestimated or underestimated. To address this limitation, future studies should include qualitative methods and external evaluators to assess these two variables. Another limitation was the focus on the clinical outcomes of patients receiving ECT. Future research could also explore other clinically important outcomes, including treatment dropout and psychiatric readmission.

Conclusion

This study identified a relatively high level of treatment adherence and a moderate level of life satisfaction among psychiatric patients undergoing ECT. Treatment adherence was significantly associated with educational level, hospitalization history, and employment status. Similarly, life satisfaction was significantly associated with psychiatric hospitalization

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history and chronic illness. These findings underscore the need for healthcare professionals to implement adherence-promoting strategies that foster sustained engagement in treatment and improve patients' subjective well-being. Proactive attention to adherence, particularly among high-risk populations, can yield substantial benefits at both individual and societal levels, thereby reinforcing the importance of systematic adherence promotion in psychiatric care.

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Conflict of Interests

The authors declare that they have no competing interests.

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Authors' Contributions

MB, BF, PT, and NA conceptualized and organized the study. AD, AGH, MH and RD were responsible for data collection and execution. AD, SJ, and, MB designed and/or executed the statistical analyses. All authors contributed to the manuscript's preparation and critical review, and they have all approved the final version.

Ethical Considerations

The present study was carried out on the basis of the principles of the revised and updated Declaration of Helsinki, which provides ethical guidelines for research with human subjects. Prior to the interviews, the objectives and procedures of the study were thoroughly explained to all participants. They were made aware of their involvement in the study, how data would be obtained, the need for audio recording, and the respective roles of the interviewer and actors in the study. The confidentiality and anonymity of all information was guaranteed. Informed consent was obtained from all participants, and each participant was told he or she could drop out of the study at any time without penalty.

Code of Ethics

Ethical Code: IR.FUMS.REC.1403.083

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