ORIGINAL RESEARCH

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Evaluation of the Views of Patients Receiving ECT and Their Parents Regarding ECT, Along with Sociodemographic and Clinical Data

EKT Alan Hastaların ve Ebeveynlerin EKT ile İlgili Görüşlerinin, Sosyodemografik ve Klinik Verilerle Birlikte Değerlendirilmesi

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Abstract

Objective: Electroconvulsive therapy (ECT) represents an efficacious therapeutic approach for managing refractory psychiatric conditions among pediatric and adolescent patients. However, parental authorization is necessary for ECT administration within this age group, and families' attitudes toward treatment directly influence clinical decision-making processes. This research sought to evaluate parental understanding, attitudes, and experiences among families whose children received ECT.

Method: This descriptive cross-sectional research was carried out with families of patients aged 12-18 years who underwent ECT within a tertiary-level psychiatric hospital between 2015 and 2024. Records of 78 patients were accessed, and interviews were conducted with

Öz

Amaç: Elektrokonvülsif terapi (EKT), çocuk ve ergenlerde tedaviye dirençli psikiyatrik bozuklukların yönetiminde etkili bir tedavi seçeneğidir. Ancak bu yaş grubunda EKT uygulaması için ebeveyn onayı gereklidir ve ailelerin tedaviye yönelik tutumları klinik karar süreçlerini doğrudan etkilemektedir. Bu çalışma, EKT uygulanan çocuk ve ergen hastaların ebeveynlerinin tedaviye ilişkin bilgi düzeylerini, tutumlarını ve deneyimlerini değerlendirmeyi amaçlamıştır.

Yöntem: Bu kesitsel ve tanımlayıcı çalışma, 2015-2024 yılları arasında üçüncü basamak bir psikiyatri hastanesinde EKT uygulanan 12-18 yaş arasındaki hastaların ebeveynleri ile yürütülmüştür. Toplam 78 hastanın kayıtlarına ulaşılmış ve 31 ebeveyn ile görüşme yapılmıştır.

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Abstract

31 parents. A structured 30-item questionnaire compiled from the literature was administered to the parents.

Results: Of the patients, 67.7% were male, averaging 16.5±1.1 years of age. The most frequently encountered diagnostic groups were bipolar disorder (38.7%) and schizophrenia spectrum and other psychotic disorders (38.7%). The primary indication for ECT administration was aggression (41.9%). Of the parents, 74.2% reported a reduction in their children's psychiatric symptoms following ECT, and 64.5% reported decreased suicidal ideation. While 71.0% of parents observed no side effects, 35.5% reported experiencing fear during the treatment process. Agreement with the notion that ECT is inhuman was only 12.9%. While 45.2% of parents preferred earlier treatment initiation, 41.9% believed that ECT should be a last resort. Notable moderate to strong inverse associations were identified between parental age and perceived level of information provision.

Conclusion: Families of young patients who received ECT largely perceive the treatment as effective and safe. However, older parents appear to require more support during the information provision process. It is recommended that clinicians more effectively involve families in the treatment process through structured psychoeducation programs.

Keywords: Child and adolescent psychiatry, electroconvulsive therapy, parental attitudes

Öz

Ebeveynlere, literatürden derlenen 30 maddelik yapılandırılmış bir anket formu uygulanmıştır.

Bulgular: Hastaların %67,7'si erkek olup yaş ortalaması 16,5±1,1 idi. En sık tanı grupları bipolar bozukluk (%38,7) ve şizofreni spektrumu ve diğer psikotik bozukluklardı (%38,7). En sık EKT endikasyonu saldırganlıktı (%41,9). Ebeveynlerin %74,2'si EKT sonrası çocuklarının psikiyatrik belirtilerinin azaldığını, %64,5'i intihar düşüncesinin gerilediğini bildirdi. Ebeveynlerin %71,0'ı yan etki gözlemlemezken, %35,5'i tedavi sürecinde korku yaşadığını belirtti. EKT'nin insancıl olmadığı düşüncesine katılım yalnızca %12,9 idi. Ebeveynlerin %45,2'si tedavinin daha erken uygulanmasını tercih ederken, %41,9'u EKT'nin son çare olması gerektiğini düşünüyordu. Ebeveyn yaşı ile bilgilendirilme düzeyi arasında orta-güçlü düzeyde negatif yönlü anlamlı korelasyonlar saptandı.

Sonuç: EKT uygulanan çocuk ve ergen hastaların ebeveynleri, tedaviyi büyük oranda etkili ve güvenli olarak değerlendirmektedir. Ancak özellikle ileri yaş ebeveynlerin bilgilendirme süreçlerinde daha fazla desteğe ihtiyaç duyduğu görülmektedir. Klinisyenlerin yapılandırılmış psikoeğitim programları ile aileleri tedavi sürecine daha etkin dahil etmesi önerilmektedir.

Anahtar kelimeler: Çocuk ve ergen psikiyatrisi, ebeveyn tutumları, elektrokonvülsif terapi

Introduction

Electroconvulsive therapy (ECT) represents a neuromodulatory technique applied within psychiatric practice for nearly eight decades, exerting therapeutic effects by inducing controlled seizures in the brain through electrical stimulation (1-3). Modern ECT constitutes a secure treatment modality administered with anesthetic agents alongside muscle relaxation, carrying a low risk of serious complications and enabling rapid response (4,5). As an effective treatment modality, it finds application in the management of conditions such as treatment-resistant depression, mania, schizophrenia, plus catatonia (6-9). ECT stands out as a primary treatment option, particularly in cases unresponsive to pharmacotherapy or in life-threatening clinical situations (10,11). Furthermore, ECT is regarded as the benchmark approach for managing mood or psychotic disorders with severe symptoms or treatment resistance (12,13).

Although ECT effectiveness in adults is well established, its application among pediatric and adolescent populations remains controversial. Nevertheless, current scientific evidence indicates that ECT may be safely administered to young patients without serious side effects and offers a rapid and effective treatment option, particularly in acute clinical situations such as mood disorders, psychotic disorders, catatonia, significant suicide risk, or violent behavior (14-16). Additionally, the United States Food and Drug Administration approved (in 2018) ECT devices as Class II (moderate risk) for managing depression as well as catatonic states in individuals 13 years of age or above (17,18). Furthermore, the American Academy of Child and Adolescent Psychiatry 2025 policy statement regarding "electroconvulsive therapy" emphasizes that ECT represents a safe and efficacious therapeutic option for appropriate indications among youth, therefore access to ECT should be supported (19,20).

The decision to use ECT among pediatric and adolescent patients represents a process that must be evaluated not only based on clinical indication but also considering ethical, legal, and familial dimensions (21-23). Obtaining treatment consent from the patient is generally not a legal requirement for ECT administration in the pediatric patient population; however, written consent needs to be secured from parents or guardians before initiating treatment (21,24,25). Since the decision to initiate and continue ECT in this age group is typically made with parental consent, the knowledge level, beliefs, and concerns of families directly influence their approach to treatment (26,27). There are findings indicating that both patients and families may

initially harbor fear, uncertainty, and negative prejudices toward ECT; however, after treatment, most report benefits and their attitudes shift to more positive ones (27-30).

Despite its documented clinical efficacy, ECT continues to be one of the most stigmatized treatments in psychiatry. This stigma stems from multiple sources, including historical practices before the introduction of anesthesia and muscle relaxants, sensationalized and inaccurate portrayals in popular media, and persistent public misconceptions about the treatment's safety profile (31-33). Research indicates that negative media representations significantly influence both patient and family attitudes, often creating barriers to accessing effective treatment. A recent analysis of social media discussions revealed that misconceptions about ECT remain prevalent, with many posts reflecting outdated fears rather than contemporary evidence-based practice (31). This stigma affects not only patients but also their families, who may face social judgment when considering ECT for their loved ones. Understanding and addressing these negative perceptions is particularly important in the pediatric context, where parental consent is essential and family attitudes directly influence treatment decisions. On the other hand, evidence that modern ECT applications in pediatric patients can provide high rates of clinical improvement and significantly enhance quality of life has strengthened considerably in recent years (34-36).

A critical, yet often overlooked factor in the surrogate decision-making process is the potential influence of parental demographics, particularly age, on the interpretation of medical information. Prior research indicates that relatives' knowledge and attitudes toward ECT are significantly shaped by sociodemographic variables and personal context (27). We hypothesized that parental age may influence ECT perceptions through two potential mechanisms: First, parents of different age cohorts may have varying degrees of exposure to negative media portrayals of ECT, as older generations were more likely to encounter sensationalized depictions during the pre-modern ECT era, while recent studies demonstrate that misconceptions continue to circulate widely on contemporary social media platforms (31). Second, older parents may face additional challenges in processing complex medical information, which could affect their perceived adequacy of information provision. Furthermore, qualitative research with parents of adolescents who received ECT has highlighted the emotional complexity of the decision-making process and the critical role of adequate information provision (21). Understanding these potential age-related differences is clinically relevant, as it could inform the development of tailored, age-appropriate communication strategies for families considering ECT for their children.

Evaluating the experiences and views held by families of young patients who received ECT is important for reducing misconceptions about treatment and supporting informed parental decision-making processes. Although numerous studies in the international literature address the knowledge, attitudes, and experiences of parents or caregivers toward ECT, no study focusing on parents of pediatric patients who received ECT exists in our country. This study was conducted to evaluate the knowledge levels, emotions, experiences, and preferences held by families of young patients who received ECT regarding ECT, and to reveal how these views relate to the treatment process. Thus, it aims to contribute to filling the gap in the literature regarding the clinical position of ECT within pediatric and adolescent psychiatry and how patient families perceive this treatment.

Materials and Methods

Study Design

This investigation was carried out following a descriptive cross-sectional framework. This research adhered to the ethical principles outlined in the Declaration of Helsinki by the World Medical Association. The study protocol received approval from the Clinical Research Ethics Committee of University of Health Sciences Turkey, Bakırköy Dr. Sadi Konuk Training and Research Hospital (decision no: 2024-02-09, dated: February 09, 2024).

Population and Sample

A total of 78 patients aged 12-18 years who were hospitalized and received ECT within the child and adolescent psychiatry unit of a tertiary psychiatric hospital in İstanbul between 2015 and 2024 were identified. The parents belonging to these patients were contacted, and 31 parents who provided written informed consent and could be interviewed constituted the study sample. Of the remaining 47 parents who did not participate, 34 could not be reached due to outdated contact information, relocation, or unavailable records, and 13 declined to participate (response rate: 31/78, 39.7%). A participant flow diagram is presented in Figure 1.

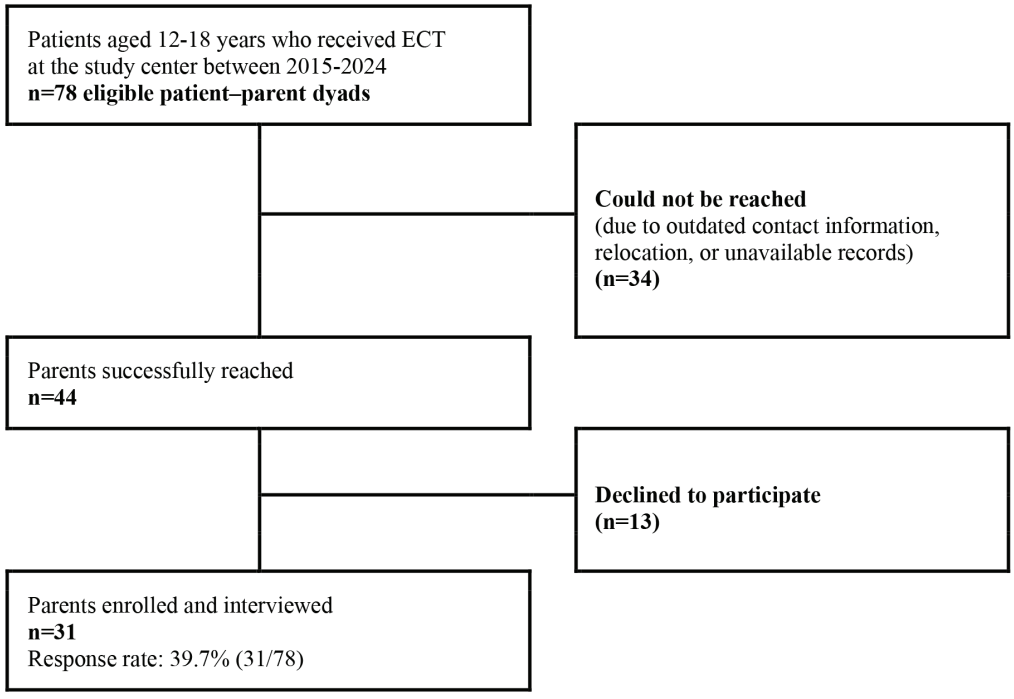

Figure 1. Participant flow diagram
ECT: Electroconvulsive therapy

Inclusion Criteria

The inclusion criteria were: (1) Being a parent of a patient aged 12-18 years who received ECT at the study center during the specified period; (2) having been directly involved in the ECT decision-making and consent process; (3) ability to communicate effectively in Turkish; and (4) provision of written informed consent.

Exclusion Criteria

The exclusion criteria were: (1) Cognitive impairment that could prevent the parent from understanding or answering the questions; (2) inability to reach the parent; (3) parent's refusal to participate in the study. Advanced parental age was not considered an exclusion criterion, as excluding older parents would reduce the representativeness of the sample. Similarly, parental psychiatric history or prior personal exposure to ECT were not included among the exclusion criteria, given that our study aimed to capture the full spectrum of parental perspectives representative of the real-world clinical population, and excluding parents with psychiatric conditions could introduce selection bias (Table 1).

Data Collection Instrument

A structured 30-item questionnaire was developed by the research team following a systematic review of existing instruments used in ECT-related perception and attitude studies. The questionnaire development process involved the following steps: (1) Comprehensive literature review to identify validated instruments and commonly used items in ECT perception research (26,37-42); (2) selection of items addressing key domains relevant to the pediatric ECT context, including ease of use, emotional experiences, perceived clinical benefits, side effect experiences, adequacy of information provision, and treatment preferences regarding ECT; (3) linguistic adaptation of selected items to ensure cultural appropriateness for the Turkish context; and (4) face validity assessment through review by three child and adolescent psychiatrists with ECT experience.

The final questionnaire comprised 30 items distributed across six thematic domains: (a) Ease of use and accessibility (3 items); (b) emotional responses to treatment (4 items); (c) perceived clinical benefits (6 items); (d) side effect experiences (9 items); (e) treatment preferences (4 items); and (f) information provision process (4 items). Items were adapted from questionnaires used in previous international studies assessing ECT-related knowledge, attitudes, and experiences among patients, caregivers, and families (26,37-39,41,42).

Table 1. Parental demographic and patient clinical characteristics		
Parental role	**n**	**%**
Mother	16	51.6
Father	15	48.4
Parental education level		
Illiterate	3	9.7
Literate (no formal education)	1	3.2
Primary school graduate	15	48.4
Middle school graduate	2	6.5
High school graduate	6	19.4
University graduate	4	12.9
Patient psychiatric diagnoses		
Bipolar disorder	12	38.7
Schizophrenia spectrum and other psychotic disorders	12	38.7
Major depressive disorder	5	16.1
Autism spectrum disorder	2	6.5
Indications for ECT		
Aggression	13	41.9
Suicidality	4	12.9
Non-suicidal self-injury	3	9.7
Refusal of treatment	4	12.9
Treatment resistance	5	16.1
Catatonia	1	3.2
Neuroleptic malignant syndrome	1	3.2
Patient history		
Prior substance use	2	6.5
History of forensic incidents	6	19.4
Prior suicide attempts	6	19.4
ECT-related side effects (observed in patient)		
Prolonged seizure	1	3.2
Other neurological or cardiac side effects	0	0.0
Clinical characteristics		
Prior psychiatric hospitalizations, mean ± SD	1.6±0.9	
Hospitalization duration during ECT admission (days), mean ± SD	60.9±44.0	
Number of ECT sessions, median (range)	9.0 (4-63)	

ECT: Electroconvulsive therapy, SD: Standard deviation

Procedure

The questionnaire was administered to parents via in-person interviews. Questions were structured employing a Likert-type format ranging from 0 to 5; scores of 0-1 were evaluated as negative, 2-3 as partially positive, and 4-5 as positive views. Answer options spanned from 0 (strongly disagree) to 5 (strongly agree). For the purpose of descriptive reporting and to facilitate interpretation, responses were collapsed into three categories for presentation in Table 2: Scores of 0-1 were categorized as "disagree" (indicating negative or disagreeing views); scores of 2-3 were categorized as "partially agree" (indicating ambivalent or neutral views); and scores of 4-5 were categorized as "agree" (indicating positive or agreeing views). This approach of collapsing scores into three descriptive categories is conceptually aligned with analytical strategies used in similar ECT perception studies (26,38,39) and allows for clearer presentation of the overall direction of parental attitudes while reducing the complexity of presenting full 6-point distributions for 30 items. The original continuous scores (0-5) were retained and used for all correlation analyses presented in Table 3, as these analyses require continuous variables to assess linear relationships between parental age and perception-related variables.

Variables

Variables evaluated within this research included sociodemographic characteristics, medical and psychiatric features of the child, and parental perceptions, attitudes, expectations, satisfaction, side effect experiences, and information provision processes regarding ECT.

Statistical Analysis

Data were analyzed using IBM SPSS Statistics Version 26.0 (IBM Corp., Armonk, NY, USA). Skewness and Kurtosis were used to assess the normality of continuous data. Descriptive statistics (frequency, standard deviation, mean, and percentage distributions) were used. Chi-square testing was utilized to compare groups, and correlation analyses were performed to evaluate relationships between variables. Pearson correlation analysis was applied to normally distributed variables. For correlation analyses examining associations between parental age and perception-related variables, the original Likert scores (0-5) were retained rather than collapsed categories to maximize variability. The magnitude of Pearson correlation coefficients was categorized as weak (r=0.10-0.29), moderate (r=0.30-0.49), or strong (r≥0.50).

Results

Records of a total of 78 patients aged 12-18 years who received ECT were accessed within the scope of the study. The parents of these patients were contacted, and face-to-face interviews were conducted with 31 parents who agreed to participate. Thus, the study sample consisted of 31 patients and their parents. All clinical and demographic data presented in this study pertain exclusively to these

31 patient-parent dyads, and all reported frequencies and percentages are calculated using n=31 as the denominator. Of the patients included in the study, 10 were female (32.3%) and 21 were male (67.7%), with a mean age of 16.5±1.1 years at the time of ECT administration.

Of the interviewed parents, 16 (51.6%) were mothers and 15 (48.4%) were fathers, averaging 48.5±5.3 years of age. Regarding parental education levels: 3 (9.7%) were illiterate, 1 (3.2%) was literate but had not completed primary school, 15 (48.4%) were primary school graduates, 2 (6.5%) were middle school graduates, 6 (19.4%) were high school graduates, and 4 (12.9%) were university graduates. The demographic characteristics of parents along with patient clinical features are summarized within Table 1.

Twelve patients (38.7%) were diagnosed with bipolar disorder and 12 cases (38.7%) with schizophrenia spectrum and other psychotic disorders. Among the remaining individuals, 5 (16.1%) had major depressive disorder and 2 (6.5%) had autism spectrum disorder.

ECT was administered due to aggression in 13 patients (41.9%), suicidality in 4 patients (12.9%), non-suicidal self-injury in 3 patients (9.7%), refusal of treatment in 4 patients (12.9%), treatment resistance in 5 patients (16.1%), catatonia in 1 patient (3.2%), and neuroleptic malignant syndrome in 1 patient (3.2%).

The average count of psychiatric hospitalizations was 1.6±0.9, and patients remained hospitalized for an average of 60.9±44.0 days during the admission when ECT was applied. The median ECT session count was 9.0, with values spanning from 4 at the lowest to 63 at the highest.

Two patients (6.5%) presented with prior substance use, 6 patients (19.4%) had a history of forensic incidents, while 6 patients (19.4%) reported previous suicide attempts.

Table 2. Parental perceptions, attitudes, and experiences of ECT

Statement	Disagree n (%)	Partially agree n (%)	Agree n (%)
ECT is more effective than medications.	7 (22.6)	5 (16.1)	19 (61.3)
ECT acts more rapidly than medications.	8 (25.8)	4 (12.9)	19 (61.3)
ECT is an inhuman treatment.	21 (67.7)	6 (19.4)	4 (12.9)
ECT is not an appropriate treatment for my child.	18 (58.1)	7 (22.6)	6 (19.4)
I experienced fear during my child's ECT treatment.	9 (29.0)	11 (35.5)	11 (35.5)
ECT reduced my child's illness symptoms.	2 (6.5)	6 (19.4)	23 (74.2)
My child's suicidal ideation decreased after ECT.	7 (22.6)	4 (12.9)	20 (64.5)
My child experiences fewer illness-related relapses after ECT.	5 (16.1)	7 (22.6)	19 (61.3)
ECT is more dangerous than medications.	18 (58.1)	7 (22.6)	6 (19.4)
ECT is a safe treatment option.	6 (19.4)	7 (22.6)	18 (58.1)
I observed side effects after ECT.	22 (71.0)	4 (12.9)	5 (16.1)
I wish ECT had been administered earlier.	12 (38.7)	5 (16.1)	14 (45.2)
I would prefer ECT over medications.	11 (35.5)	5 (16.1)	15 (48.4)
ECT should only be used in severely ill patients.	7 (22.6)	9 (29.0)	15 (48.4)
ECT should be used as a last resort.	8 (25.8)	10 (32.3)	13 (41.9)

ECT: Electroconvulsive therapy

Table 3. Correlations between parental age and ECT-related perceptions

Variable	p	r
Perceived adequate knowledge about ECT	0.009	-0.462
Perceived adequate information on therapeutic effects and procedure	0.001	-0.563
Perceived adequate information on side effects	0.034	-0.382
Perceived adequate information on risks	0.038	-0.374
Belief that ECT is frequently used in adolescents	0.037	-0.376

ECT: Electroconvulsive therapy, r: Pearson correlation coefficient
All correlations indicate that older parents reported lower perceived information adequacy

Regarding side effects evaluated during or after ECT administration, prolonged seizure was observed in only 1 patient (3.2%). No other neurological or cardiac side effects were observed.

The majority of parents evaluated ECT to be an efficacious, rapid, and secure therapeutic approach. Most parents indicated that ECT was both more effective and faster than medications. Agreement with the notion that ECT is an inhuman method remained low (12.9%).

A total of 58.1% of parents viewed ECT as an appropriate treatment option for their child; although 35.5% of parents reported experiencing fear during the ECT process, the general tendency was that the child benefited from treatment. Indeed, 74.2% of participants reported that their children's psychiatric symptoms decreased after ECT, and 64.5% reported that suicidal ideation decreased. Additionally, 61.3% of participants stated that there were fewer illness-related relapses after ECT.

Overall, 58.1% of parents believed that the method was not more dangerous than medications and was a safe treatment. Furthermore, 71.0% of parents reported not observing any side effects after ECT. A total of 45.2% of participants expressed that ECT should have been administered earlier; 48.4% indicated that they could prefer ECT over medication treatment. On the other hand, 48.4% of parents expressed the view that ECT ought to remain reserved for patients presenting serious psychiatric conditions, while 41.9% believed it should be administered as a last resort. In comparisons, mothers' and fathers' responses showed no statistically meaningful variations across all items. Parental attitudes and experiences regarding ECT are summarized in Table 2.

When parents were grouped according to their children's diagnoses, no significant differences were found in their views regarding benefit from ECT, side effects, emotions about ECT, or beliefs about ECT's effectiveness and speed.

Correlation analyses between parental age and views on ECT were also examined (Table 3). A significant negative moderate correlation was found between parental age and perceived adequate knowledge about ECT (p=0.009, r=-0.462); a significant strong negative correlation with the belief of perceived adequate information on therapeutic effects and procedure (p=0.001, r=-0.563); a significant negative moderate correlation with the belief of perceived adequate information on side effects (p=0.034, r=-0.382); a significant negative moderate correlation with the belief of perceived adequate information on risks (p=0.038, r=-0.374); and a significant negative moderate correlation with the belief that ECT is frequently used in adolescents (p=0.037, r=-0.376).

Parental perceptions and attitudes toward ECT were compared according to parental role (mothers vs. fathers) using chi-square tests (Table 4). No statistically significant differences were observed between mothers and fathers across any of the questionnaire items (all $p>0.05$). Specifically, mothers and fathers demonstrated comparable views regarding perceived efficacy, with similar proportions agreeing that ECT reduced their child's symptoms (68.8% vs. 80.0%; $\chi^2=0.7$, $p=0.712$) and that ECT acts more rapidly than medications (62.5% vs. 60.0%; $\chi^2=0.0$, $p=0.990$). Similarly, no significant differences emerged in safety perceptions, including views on whether ECT is a safe treatment option ($\chi^2=3.9$, $p=0.141$) or observations of side effects following treatment ($\chi^2=3.5$, $p=0.174$). Emotional responses to treatment were also comparable between groups, with 43.8% of mothers and 26.7% of fathers reporting fear during their child's ECT treatment ($\chi^2=1.0$, $p=0.610$). Furthermore, treatment preferences showed no significant variation, as similar proportions expressed a preference for ECT over medications (43.8% vs. 53.3%; $\chi^2=0.3$, $p=0.850$) and agreement that ECT should be used as a last resort (37.5% vs. 46.7%; $\chi^2=0.4$, $p=0.800$). These findings suggest that parental role does not significantly influence perceptions and attitudes toward ECT in this sample. Given the non-significant chi-square results (all $p>0.05$), Fisher's exact test, as a more conservative statistical approach, was not implemented in the current study.

Discussion

This research sought to describe parental perceptions, attitudes, and experiences regarding ECT administered to their children. Our descriptive findings indicate that the majority of parents in this sample reported positive perceptions of ECT. However, these findings represent reported perceptions rather than objective measures of treatment efficacy or safety. Our findings indicate that parents' general attitudes toward ECT are positive, and they largely view the treatment as "life-saving" and "more effective than medications". These findings are consistent with the results of the systematic review by Boone et al. (27), which included 29 studies; this review indicated that caregivers' perceptions regarding ECT are predominantly favorable, and that most caregivers would recommend ECT in the future if needed.

Table 4. Comparison of ECT-related perceptions and attitudes between mothers and fathers

Statement	Answer	Mothers, n=16	Fathers, n=15	X^2	p
ECT is more effective than medications.	Disagree	4 (25.0)	3 (20.0)	0.4	0.834
	Partially agree	3 (18.8)	2 (13.3)		
	Agree	9 (56.3)	10 (66.7)		
ECT acts more rapidly than medications.	Disagree	4 (25.0)	4 (26.7)	0.0	0.990
	Partially agree	2 (12.5)	2 (13.3)		
	Agree	10 (62.5)	9 (60.0)		
ECT is an inhuman treatment.	Disagree	11 (68.8)	10 (66.7)	1.7	0.431
	Partially agree	2 (12.5)	4 (26.7)		
	Agree	3 (18.8)	1 (6.7)		
ECT is not an appropriate treatment for my child.	Disagree	9 (56.3)	9 (60.0)	1.9	0.382
	Partially agree	5 (31.3)	2 (13.3)		
	Agree	2 (12.5)	4 (26.7)		
I experienced fear during my child's ECT treatment.	Disagree	4 (25.0)	5 (33.3)	1.0	0.610
	Partially agree	5 (31.3)	6 (40.0)		
	Agree	7 (43.8)	4 (26.7)		
ECT reduced my child's illness symptoms.	Disagree	1 (6.3)	1 (6.7)	0.7	0.712
	Partially agree	4 (25.0)	2 (13.3)		
	Agree	11 (68.8)	12 (80.0)		
My child's suicidal ideation decreased after ECT.	Disagree	3 (18.8)	4 (26.7)	1.1	0.574
	Partially agree	3 (18.8)	1 (6.7)		
	Agree	10 (62.5)	10 (66.7)		
My child experiences fewer illness-related relapses after ECT.	Disagree	4 (25.0)	1 (6.7)	3.1	0.211
	Partially agree	2 (12.5)	5 (33.3)		
	Agree	10 (62.5)	9 (60.0)		
ECT is more dangerous than medications.	Disagree	8 (50.0)	10 (66.7)	3.0	0.223
	Partially agree	3 (18.8)	4 (26.7)		
	Agree	5 (31.3)	1 (6.7)		
ECT is a safe treatment option.	Disagree	5 (31.3)	1 (6.7)	3.9	0.141
	Partially agree	2 (12.5)	5 (33.3)		
	Agree	9 (56.3)	9 (60.0)		
I observed side effects after ECT.	Disagree	9 (56.3)	13 (86.7)	3.5	0.174
	Partially agree	3 (18.8)	1 (6.7)		
	Agree	4 (25.0)	1 (6.7)		
I wish ECT had been administered earlier.	Disagree	6 (37.5)	6 (40.0)	0.2	0.919
	Partially agree	3 (18.8)	2 (13.3)		
	Agree	7 (43.8)	7 (46.7)		
I would prefer ECT over medications.	Disagree	6 (37.5)	5 (33.3)	0.3	0.850
	Partially agree	3 (18.8)	2 (13.3)		
	Agree	7 (43.8)	8 (53.3)		
ECT should only be used in severely ill patients.	Disagree	5 (31.3)	2 (13.3)	1.4	0.489
	Partially agree	4 (25.0)	5 (33.3)		
	Agree	7 (43.8)	8 (53.3)		
ECT should be used as a last resort.	Disagree	4 (25.0)	4 (26.7)	0.4	0.800
	Partially agree	6 (37.5)	4 (26.7)		
	Agree	6 (37.5)	7 (46.7)		

ECT: Electroconvulsive therapy

In our study, 74.2% of parents reported that their children's psychiatric symptoms decreased after ECT, and 64.5% reported that suicidal ideation decreased. Furthermore, the fact that no parent characterized the treatment as "completely ineffective" and that 48.4% indicated they could prefer ECT over medication treatment suggests that ECT was perceived favorably by families in this sample. This high perception of efficacy is consistent with the literature. Flamarique et al. (42), in their study with families of teenage patients carrying schizophrenia spectrum diagnoses, reported that 73.7% of parents found the treatment beneficial for their children and no parent thought the condition worsened. Walter et al. (37) reported that 50% of patients found ECT beneficial, while the same study noted that 61% of parents reported improvement. The 74.2% symptom reduction rate we observed aligns with these findings and even suggests a somewhat higher satisfaction level compared to these data. Additionally, in the study by Rajagopal et al. (39), 94% of patient relatives agreed with the statement "I am satisfied that my relative received ECT", supporting that parents/caregivers are highly satisfied with treatment outcomes.

One of the most notable findings of our study is that 71% of parents reported not observing any side effects in their children after ECT. This rate reveals similar results to some studies in the literature. Similarly, Rajagopal et al. (38) reported that a large proportion (83%) of patient relatives did not have negative experiences with long-term side effects. However, Deng et al. (26) noted that 62% of participants experienced adverse effects, with memory disturbance emerging as the predominant complaint at 72.8% The low rate of side effect reporting in our study (no serious side effects except for prolonged seizure at 3.2%) suggests that parents can tolerate mild cognitive effects or prioritize clinical improvement from treatment over side effects. In the study by Flamarique et al. (42), 80% of parents also described the illness itself as a worse experience than ECT or medications.

Our analysis revealed notable negative associations between parental age and the beliefs of "perceived adequate knowledge about ECT" and "perceived adequate information on therapeutic effects and procedure". This indicates that older parents experience more difficulty in the information provision process. The literature also frequently emphasizes deficiencies in information provision processes. Rajagopal et al. (39) reported that although 100% of patient relatives stated they had sufficient information to decide on treatment and all their questions were answered, and 96% reported that the treatment team devoted sufficient time to them, complete satisfaction with information was not achieved. In the same study, 90% of patient relatives agreed with the statement "we did not receive adequate information", and 80% disagreed with the statement "we received the right amount of information", emphasizing that the information was insufficient. Gunasekera et al. (41) reported that physicians served as the primary information source (43%), yet 69% felt that medical staff failed to offer sufficient explanation before treatment. Similarly, in the study by Deng et al. (26), only 55.4% of caregivers indicated they were informed before ECT. Our findings indicate that, particularly for parents in older age groups, there is a need for structured and repetitive information sessions beyond standard consent forms. However, alternative interpretations should be considered; this association may also reflect generational differences in expectations regarding medical communication, varying levels of health literacy, or differences in willingness to express dissatisfaction rather than actual deficits in information comprehension.

The rate of agreement with the notion that ECT is an "inhuman" method was found to be quite low (12.9%) in our study. This outcome aligns with what Rajagopal et al. (38) observed; in that study, 96% of patient relatives disagreed with the view that ECT is an inhuman treatment, and only 3.9% agreed or were undecided. Nevertheless, 35.5% of parents reported experiencing fear about their child during the ECT process. Our findings parallel those documented in previous research. Our results are comparable to the 26% noted by Rajagopal et al. (39) in adult patient relatives and the 31.5% found by Deng et al. (26) in caregivers. Flamarique et al. (42) identified a notably higher fear rate (52.6%) among families of adolescent patients with schizophrenia spectrum conditions. Such variation suggests the impact of the child's diagnosis and age on parental anxiety.

In our study, 41.9% of parents believed that ECT should be administered as a last resort. This rate is similar to the 51.1% found by Deng et al. (26) in caregivers in China. On the other hand, 45.2% of parents in our study expressed the view that "ECT should have been administered earlier". This rate is higher than the 19.5% "treatment was delayed" rate reported by Rajagopal et al. (38) in patient relatives and the 31.6% rate of parents who responded "would accept immediately" in the study by Flamarique et al. (42). These findings may reflect positive parental experiences in our sample and a possible preference toward earlier initiation of treatment.

Study Limitations

Our research has certain limitations. First, data collection occurred at a single institution with a limited number of participants (n=31). This may restrict how broadly the results can be applied. Second, the cross-sectional nature of this work does not permit assessment of how parental attitudes evolve over time. Third, data were collected retrospectively, and parental recall bias may have affected the results. Since the time elapsed since ECT administration varied, some parents may have remembered their experiences more positively or negatively. Fourth, of the 78 parents contacted, 34 could not be reached due to outdated contact information, relocation, or unavailable records, and 13 declined to participate, resulting in a response rate of 39.7% (31/78); this may have led to selection bias, as parents with more positive experiences regarding ECT may have been more inclined to participate. This potential bias should be considered when interpreting the predominantly favorable attitudes reported. Finally, the questionnaire used was not a standardized scale but was compiled from the literature by the researchers; therefore, its psychometric properties, including internal consistency and reliability, have not been formally evaluated. Additionally, formal pilot testing was not conducted prior to data collection. These factors limit our ability to determine whether the items function coherently to measure the intended constructs and should be considered when interpreting the findings.

Nevertheless, our study has notable strengths. First, this is the first study in Turkey to assess parental perspectives regarding minors treated with ECT, addressing a significant gap in this field. Second, the study encompasses cases spanning approximately a decade (2015-2024), capturing a wide range of clinical experience. Third, the questionnaire used was compiled from studies with demonstrated validity in the international literature, providing a multidimensional assessment. Finally, our study includes views of both mothers and fathers, showing a balanced distribution by gender.

Conclusion

In conclusion, our descriptive study indicates that parents of pediatric patients who received ECT at our center reported predominantly positive perceptions regarding the treatment's effectiveness and safety. A large proportion of parents reported reduction in their children's psychiatric symptoms after ECT and found the treatment beneficial. The perception that ECT is an "inhuman" method remained at a very low level. However, it was found that older parents in particular experienced more difficulty in the information provision process, and greater emphasis should be placed on structured psychoeducation programs and family education in clinical practice. Future studies conducted with larger samples, prospective designs, and qualitative methods will increase the body of knowledge in this field. Additionally, developing and implementing psychoeducation programs aimed at reducing social stigma toward ECT is important.

Ethics

Ethics Committee Approval: This research adhered to the ethical principles outlined in the Declaration of Helsinki by the World Medical Association. The study protocol received approval from the Clinical Research Ethics Committee of University of Health Sciences Turkey, Bakırköy Dr. Sadi Konuk Training and Research Hospital (decision no: 2024-02-09, dated: February 09, 2024).

Informed Consent: Written permission was secured from all parents or legal guardians of the participants.

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Footnotes

Authorship Contributions

Surgical and Medical Practices: M.T., C.Y., S.A., İ.E.G.F., K.K., Ç.E., S.T., R.O.Ç., E.H., G.A., Ö.A.C., G.K. Concept: M.T., G.K., Ç.E., S.T., C.Y., S.A., İ.E.G.F., K.K. Design: M.T., G.K., Ç.E., S.T., C.Y., S.A., R.O.Ç., Ö.A.C. Data Collection or Processing: M.T., C.Y., S.A., İ.E.G.F., K.K., Ç.E., S.T., R.O.Ç., E.H., G.A., Ö.A.C. Analysis or Interpretation: M.T., G.K., Ç.E., S.T., C.Y., S.A., İ.E.G.F., K.K. Literature Search: M.T., C.Y., S.A., İ.E.G.F., K.K., E.H., G.A., Ö.A.C., R.O.Ç. Writing: M.T., G.K., C.Y., S.A., Ç.E., S.T.

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