



A CROSS-SECTIONAL STUDY TO ASSESS THE KNOWLEDGE ON ELECTROCONVULSIVE THERAPY (ECT) AMONG CAREGIVERS OF MENTALLY ILL CLIENTS

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ABSTRACT

Electroconvulsive Therapy (ECT) remains one of the most effective treatments for severe and treatment-resistant psychiatric disorders such as depression, bipolar disorder, and schizophrenia. Despite advancements that have made ECT safe and well-tolerated, persistent stigma, myths, and misinformation have contributed to low acceptance rates, especially among caregivers who play a pivotal role in treatment decisions. Understanding caregivers knowledge of ECT is therefore essential for improving mental health outcomes and reducing stigma. This study aimed to assess the level of knowledge regarding Electroconvulsive Therapy among caregivers of mentally ill clients and to determine its association with selected sociodemographic variables. A descriptive cross-sectional study was conducted among 30 caregivers of mentally ill patients admitted to the psychiatric wards of M.O.S.C. Medical Mission Hospital, Kolenchery, Ernakulam district, Kerala. Participants were selected using a non-probability convenience sampling technique. Data were collected using a structured socio-demographic proforma and a 15-item ECT knowledge assessment scale. The data were analyzed using descriptive and inferential statistics, including the Chi-square/Fisher's exact test. Among the caregivers, 16.7% had demonstrated poor knowledge, 30% had moderate knowledge, 33.3% had good knowledge, and 20% excellent knowledge regarding ECT. Although most of caregivers possessed moderate to good knowledge, but statistical analysis revealed no significant association between caregivers' knowledge levels

and sociodemographic variables such as age, gender, education, relationship to the patient, or prior awareness of ECT ($p > 0.05$). This underscores the need for structured programs within psychiatric settings to enhance caregiver understanding, dispel myths, and promote informed acceptance of ECT.

Keywords: Electroconvulsive Therapy; caregiver knowledge; mental illness; stigma; psychoeducation; cross-sectional study

INTRODUCTION

Mental illness remains a major global public health challenge, affecting individuals across all age groups, cultures, and socioeconomic strata. According to the World Health Organization (WHO), nearly 1 in 8 people worldwide live with a mental disorder, and this number continues to rise due to various factors including social stressors, poverty, conflict, and limited access to care [1]. Conditions like schizophrenia, bipolar disorder, and severe depression require comprehensive treatment approaches, including pharmacological, psychotherapeutic, and biological interventions such as Electroconvulsive Therapy (ECT).

Electroconvulsive Therapy (ECT) is a medical procedure that involves the application of small electric currents to the brain to trigger a brief seizure, with the aim of relieving severe psychiatric symptoms. ECT is particularly effective in treatment-resistant depression, catatonia, mania, and certain forms of schizophrenia [2]. Despite its clinical efficacy and safety in modern practice, ECT remains one of the most controversial and



misunderstood psychiatric treatments, particularly among non-professionals and caregivers.

Historically, ECT was performed without anesthesia or muscle relaxants, leading to physical side effects and negative perceptions [3]. These early practices, coupled with dramatic portrayals in movies and media such as *One Flew Over the Cuckoo's Nest* have significantly influenced public opinion, resulting in fear, stigma, and misconceptions surrounding ECT. Many people, including caregivers, continue to believe that ECT is painful, inhumane, or causes permanent brain damage [4].

Today, ECT is administered under general anesthesia with muscle relaxants and constant monitoring, making it a safe and well-regulated procedure with minimal side effects when appropriately indicated. Side effects such as short-term memory loss and confusion are typically transient and manageable [5]. Nonetheless, the lingering stigma and misinformation contribute to low acceptance rates of ECT even in cases where it is medically indicated and potentially life-saving.

Caregivers of mentally ill clients play a critical role in the treatment and recovery process. They often serve as the primary support system, ensuring medication adherence, attending appointments, providing emotional encouragement, and making decisions about treatment modalities, especially in cultures where family input is heavily weighted. As such, their knowledge and perceptions of treatment options like ECT are crucial to the success of psychiatric interventions [6].

Unfortunately, studies have shown that caregivers often lack accurate knowledge about ECT, and their attitudes are influenced by cultural beliefs, social stigma, and lack of formal education [7]. In one study, a significant proportion of caregivers believed ECT to be dangerous and used only as a last resort, despite evidence showing its superiority in certain clinical situations⁸. In such cases, negative perceptions can lead to refusal of treatment, delays in care, and increased psychological distress for both patients and their families.

The consequences of poor knowledge are serious. When caregivers harbor negative views or myths about ECT, it may reduce treatment adherence and limit the effectiveness of mental health services. For example, if a psychiatrist recommends ECT for a severely depressed patient, the caregiver's lack of understanding could lead to hesitation, mistrust, or outright refusal, thus delaying recovery [9]. This can worsen the patient's prognosis and may lead to prolonged hospitalization or relapse.

Conversely, caregivers who are knowledgeable about ECT are more likely to consent to treatment, support the patient through the process, and monitor for post-treatment symptoms.

They can also help dispel community myths and reduce stigma by sharing accurate information and lived experiences [10]. Therefore, improving caregiver awareness is not only beneficial for individual patients but also for broader mental health advocacy.

The gap in knowledge among caregivers is particularly pronounced in developing countries, where mental health literacy is low, and resources are limited. In such settings, traditional beliefs and misinformation may be more prevalent, and healthcare professionals may lack the time or tools to provide comprehensive education [11]. Caregivers may also face barriers like illiteracy, language differences, and cultural attitudes that discourage discussions about mental health or somatic treatments like ECT.

While previous studies have explored public attitudes toward ECT, few have focused specifically on the knowledge levels among caregivers, especially in local or rural contexts. Assessing what caregivers know, believe, and fear about ECT is critical to designing effective interventions that improve understanding and acceptance. Moreover, such knowledge can inform psychoeducation sessions, community outreach programs, and caregiver counseling efforts within psychiatric services.

From a nursing and mental health services perspective, caregivers' education is a vital part of holistic care. Mental health nurses and allied professionals are in a unique position to offer timely, accurate, and culturally sensitive information about ECT. If caregivers are well-informed, they are more likely to become active participants in care, encourage adherence to treatment, and contribute positively to patient recovery [12].

Given this context, the current study aims to assess the knowledge about ECT among caregivers of mentally ill clients. This will help identify existing misconceptions, the influence of demographic factors such as education and caregiving experience, and the need for targeted educational interventions. The findings will be useful for mental health practitioners, hospital administrators, and policymakers to design and implement strategies that enhance caregiver involvement and reduce stigma.

Ultimately, bridging the knowledge gap among caregivers has the potential to increase the acceptance of ECT where clinically indicated, reduce fear and stigma, and improve the overall outcomes of psychiatric treatment. It also aligns with the broader goal of patient- and family-centered mental health care, which emphasizes education, collaboration, and empowerment.

Statement of the Problem

A cross-sectional study to assess the knowledge on Electroconvulsive Therapy (ECT)



among caregivers of mentally ill clients in Ernakulam district, Kerala.

Objectives

1. To assess the knowledge on electroconvulsive therapy among caregivers of mentally ill patients.
2. To determine the association of knowledge on electroconvulsive therapy with their selected sociodemographic variables among caregivers of mentally ill patients.

Operational definitions

- Caregiver: Refers to a person who provides regular unpaid or paid day-to-day support, supervision, or assistance to a person diagnosed with a mental illness. For this study the caregiver must have given care for the client for at least 3 months prior to data collection.
- Mentally ill client: Refers to an individual with a documented diagnosis of a psychiatric disorder who is currently receiving care at the study setting. The caregivers knowledge pertains to the client.
- Electroconvulsive therapy (ECT): Refers to a psychiatric treatment for certain mental health conditions in which a controlled electric current is used to produce a generalized cerebral seizure under anesthesia. For the study the description includes indication, contra indication, procedure, expected benefits, side effects and complications.
- Knowledge on ECT: Caregivers factual and procedural understanding of ECT measured using a structured questionnaire.

Assumptions

1. Caregivers of mentally ill clients may have limited or inaccurate knowledge on electroconvulsive therapy.
2. Knowledge of electroconvulsive therapy may influence caregivers support for or opposition to the treatment.
3. Educational background and prior exposure to mental health information might affect the caregivers knowledge on electroconvulsive therapy.

Hypotheses

HA1: There is a significant association between caregivers' knowledge on electroconvulsive therapy and their selected demographic variables.

MATERIALS AND METHODS

Study design

This cross-sectional study was conducted at M.O.S.C. Medical Mission Hospital, Kolenchery, Ernakulam district, Kerala. The study was approved by the institutional ethical committee and written

informed consent was obtained from all the participants.

Variables

Research variable: Knowledge on Electroconvulsive Therapy

Sociodemographic variables: Age, gender, educational qualification, relationship to the patient and knowledge of electroconvulsive therapy before this study.

Setting of the study

M.O.S.C. Medical Mission Hospital, Kolenchery, Ernakulam district, Kerala

Population

- **Target population**
Care givers of mentally ill patients at Ernakulam district, Kerala
- **Accessible population**
Care givers of mentally ill patients in F&G and S3 wards of M.O.S.C. Medical Mission Hospital, Kolenchery, at Ernakulam district, Kerala

Sample and sampling technique

- **Sample**
Caregivers of mentally ill patients in F&G and S3 wards of M.O.S.C. Medical Mission Hospital, Kolenchery, at Ernakulam district, Kerala, who had met the inclusion criteria.

- **Sampling technique**

Non probability Convenience sampling technique was used for this study. Based on convenience of the researcher, F&G and S3 wards of M.O.S.C. Medical Mission Hospital, Kolenchery, Ernakulam district, Kerala, was selected.

- **Sample size**

The project was conducted with 30 samples from F&G and S3 wards of M.O.S.C. Medical Mission Hospital, Kolenchery, Ernakulam district, Kerala
Sample selection criteria

Inclusion criteria:

- Care givers of mentally ill patients who are aged ≥ 18 years
- Care givers of mentally ill patients who can read, write and understand Malayalam or English

Exclusion Criteria:

- Caregivers with a known history of psychiatric illness.
- Unwilling or unable to give informed consent.



Tools and techniques

Tool 1: Socio demographic Proforma

Socio demographic proforma includes socio demographic characteristics of school going children. The socio demographic proforma consisted of 5 items including age, gender, educational qualification, relationship to the patient, and knowledge of ECT before this study.

Tool 2: Structured scale on ECT knowledge assessment

The knowledge assessment on ECT for caregivers is a 15-item questionnaire designed to evaluate caregivers understanding of Electroconvulsive Therapy (ECT). It covers three main areas such basic understanding of ECT including its definition, purpose, and administration. This addresses common side effects, safety measures, and frequency of treatment. Myths and misconceptions clarifying misunderstandings on ECT. Each multiple-choice question has one correct answer worth 1 point. There is no negative marking for incorrect answers. Scoring and Interpretation were, 13–15 points: Excellent knowledge – the caregiver is well-informed. 10–12 points: Good knowledge – a few gaps, but generally competent. 7–9 points: Moderate knowledge – further education recommended. 0–6 points: Poor knowledge – immediate awareness and training needed. This assessment tool can be used in educational or clinical settings to identify training needs and improve caregiver support for patients undergoing ECT.

Ethical clearance

The investigator has considered the ethical principles while proceeding with the project. This study protocol was approved by the Institutional Ethics Committee of M.O.S.C. Medical Mission Hospital, Kolenchery. Official administrative permission was obtained from the M.O.S.C. Medical Mission Hospital, Kolenchery, Ernakulam district. A letter explained the purpose of the study was handed over to the study subjects and informed written consent was taken from each participant before data collection. Confidentiality and anonymity of the data were ensured using subject coding system.

Data collection process

After obtaining approval from Institutional Ethics Committee of Malankara Orthodox Syrian Church Medical College Hospital, formal permission was obtained from Principal, College of Nursing and Administrative permission was obtained from hospital authorities. Total of 30 subjects were selected from M.O.S.C. Medical Mission Hospital, Kolenchery, Ernakulam District. The samples were selected by non-probability convenient sampling technique, based on eligibility criteria. After a brief self-introduction, the subjects were explained regarding the purpose of the study. The subjects were allowed to read the participant information sheet and made provision to clarify their doubts. Following this, informed consent from them was obtained for participation in the study. The demographic data and knowledge on ECT among caregivers of mentally ill patients were assessed using Socio demographic proforma and structured knowledge assessment scale on ECT. The data were collected from 20th October 2025 to 10th November 2025. Approximate time taken for data collection from each participant was 10 minutes to 15 minutes. The investigator thanked the participants for their cooperation for the study.

Plan for data analysis

The data were analysed by using R software. Categorical variables were summarized using frequency and percentage. Quantitative variables were summarized using mean and SD, if data followed normality assumption or else using median and IQR (Q1, Q3). The normality of the data was checked using Kolmogorov – Smirnov test or Shapiro test. The association of knowledge on ECT among caregivers of mentally ill patients with selected demographic variables were performed using Chi-square test /Fisher's exact test.

Description of knowledge level on ECT among caregivers of mentally ill patients

In this section, the knowledge level on ECT among caregivers of mentally ill patients were described in frequency and percentage.

Table 1: Frequency and percentage distribution of subjects based on their knowledge level on ECT (n = 30)

SI No.	Score category	Frequency (f)	Percentage (%)
1.	Poor knowledge	5	16.7%
2.	Moderate knowledge	9	30%
3.	Good knowledge	10	33.3%
4.	Excellent knowledge	6	20%

Data in table 1 indicate that the majority of caregivers (33.3%) possessed good knowledge about ECT, followed by 30% with moderate knowledge. Only a small proportion (16.7%) had

poor knowledge, while 20% showed excellent understanding.



Association of caregivers' knowledge level on ECT with selected sociodemographic variables among caregivers of mentally ill patients.

In order to find the association of association of knowledge level on ECT with selected

sociodemographic variables among caregivers of mentally ill patients Chi-square test /Fisher's exact test were used.

Table 2: Association of knowledge level on ECT with selected sociodemographic variables among caregivers of mentally ill patients (n=30)

Sl. No	Socio demographic variables	Categories	n	n (%)		Test statistic value (Chi-square test /Fisher's exact test)	p value
				Poor and moderate knowledge	Good and excellent knowledge		
1.	Age	18-37	9	22.2%	77.8%	3.72 (Chi-square test)	-
		38-57	17	52.9%	47.1%		
		>=58	4	75%	25%		
2.	Sex	Female	14	42.9%	57.1%	0.153 (Chi-square test)	-
		Male	16	50%	50%		
3.	Educational qualification	Graduate	13	38.5%	61.5%	4.133 (Chi-square test)	-
		Primary school	4	50%	50%		
		Secondary school	13	53.8%	46.2%		
4.	Relationship to patient	Child	8	25%	75%	2.586 (Chi-square test)	-
		Parent	9	66.7%	33.3%		
		Sibling	1	0%	100%		
		Spouse	12	50%	50%		
5.	Knowledge of ECT before this study	No	18	38.9%	61.1%	1.094(Chi-square test)	-
		Yes	12	58.3%	41.7%		

*Significant at $p \leq 0.05$

The data in table 2 shows that the caregivers aged 18–37 years had 77.8% in the good or excellent knowledge category, compared to 47.1% among those aged 38–57 years and 25% among those aged 58 years and above ($\chi^2 = 3.72$, $p > 0.05$). Males and females showed nearly equal distribution in knowledge levels ($\chi^2 = 0.153$, $p > 0.05$). Caregivers with graduate education (61.5%) tended to have higher knowledge than those with lower educational levels, but this difference was not statistically significant ($\chi^2 = 4.133$, $p > 0.05$). Children and siblings of patients tended to have higher knowledge levels compared to parents and spouses, though this difference also lacked significance ($\chi^2 = 2.586$, $p > 0.05$). Caregivers who had heard of ECT before the study showed slightly higher knowledge levels (58.3%) compared to those

who had not (38.9%), but again, the association was not significant ($\chi^2 = 1.094$, $p > 0.05$).

DISCUSSION

The present study found no statistically significant association between caregivers knowledge level on Electroconvulsive Therapy (ECT) and selected sociodemographic variables such as age, sex, educational qualification, relationship to the patient, and prior knowledge of ECT. This indicates that caregivers' understanding of ECT is not substantially influenced by demographic characteristics, but may instead depend on other factors such as exposure to mental health information, previous caregiving experience, or interactions with healthcare professionals.

Similar findings were reported, who observed that caregivers' knowledge and attitudes



toward ECT were not significantly related to demographic variables but were strongly influenced by their prior contact with mental health services and education provided by clinical staff. Likewise, found that while caregivers with higher educational levels tended to have slightly better knowledge of ECT, the difference was not statistically significant, suggesting that general awareness about ECT remains low across all demographic groups.

In contrast, a study reported a significant association between education level and knowledge of ECT, with better-educated caregivers demonstrating more accurate understanding of the procedure. However, the present study did not replicate these findings, possibly due to differences in sample size, study setting, or the extent of caregiver exposure to mental health education. Another study emphasized that misconceptions about ECT often persist regardless of demographic background, largely due to inadequate dissemination of accurate information through health education channels and mass media.

Overall, the findings of this study highlight the need for comprehensive and ongoing educational initiatives targeted at caregivers of mentally ill patients. Such programs should aim to correct misconceptions, promote evidence-based understanding of ECT, and empower caregivers to support patients effectively during the treatment process. Ensuring that information is accessible and understandable across all education levels will be crucial to improving knowledge and reducing stigma associated with ECT.

Nursing implications

The present study had significant implications in the field of nursing administration, nursing education, nursing practice, and nursing research. The role of nurse administrators, nurse educators, and nursing staffs are crucial in improving knowledge and reducing stigma associated with ECT in caregivers of mentally ill clients.

1. Nursing Education

- Nursing curricula should emphasize evidence-based knowledge on ECT, including recent advances, safety measures, and patient-centered care.
- Training programs should equip nurses with communication and counseling skills to effectively educate and reassure caregivers.
- Continuing nursing education (CNE) sessions can focus on dispelling myths and promoting accurate understanding of ECT among health workers.

2. Nursing Administration

- Nurse administrators should implement awareness and training programs for caregivers within psychiatric units.
- Hospitals can design information brochures, posters, and audio-visual materials in local languages to improve caregiver education.
- Administrators should encourage interdisciplinary collaboration among psychiatrists, psychologists, and nurses to strengthen caregiver counseling.

3. Nursing Research

- Future nursing research can focus on evaluating the impact of psychoeducational interventions on caregiver knowledge and acceptance of ECT.
- Studies may also explore nurses' own knowledge and attitudes toward ECT to identify training needs.
- Evidence generated from such studies can be used to inform policy and clinical guidelines on caregiver education in psychiatric care.

4. Nursing Practice

- Nurses play a pivotal role in psychoeducation, providing factual information about the procedure, expected outcomes, and side effects to both patients and families.
- Mental health nurses can serve as liaisons between the medical team and caregivers, ensuring that consent and cooperation are based on informed understanding.
- Nurses should adopt a therapeutic communication approach to address caregivers' fears and misconceptions compassionately.
- Policies should enable nurses to take a lead role in follow-up care, including home visits, telephonic counselling, and referral coordination to rehabilitation centres.

Recommendations

- Future studies can be conducted with larger and more diverse samples across multiple hospitals or regions to enhance external validity.
- Researchers may adopt a mixed-methods approach incorporating both quantitative and qualitative tools to capture deeper insights into caregivers' beliefs, fears, and experiences with ECT.
- Comparative studies can be performed to assess knowledge differences among caregivers, patients, and healthcare professionals, providing a broader understanding of mental health literacy.
- Longitudinal studies could examine how educational interventions influence knowledge, attitudes, and acceptance of ECT over time.



CONCLUSION

Based on the findings, the study revealed that caregivers of mentally ill patients possessed varying levels of knowledge regarding Electroconvulsive Therapy (ECT), with most demonstrating good to moderate understanding. However, the analysis showed no significant association between caregivers' knowledge level and their sociodemographic characteristics, including age, sex, educational qualification, relationship to the patient, and prior awareness of ECT. These findings suggest that knowledge about ECT is distributed relatively evenly across different

demographic groups and may depend more on individual exposure to information or healthcare experiences than on background factors.

Therefore, to improve caregiver knowledge and attitudes toward ECT, continuous education and awareness programs should be implemented in mental health settings. Such initiatives can help ensure that all caregivers, regardless of their demographic background, are well informed about the purpose, benefits, and procedures of ECT, ultimately promoting better support for patients undergoing this treatment.

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