

Effectiveness of a Structured Teaching Programme on Knowledge and Level of Anxiety among Family Members of Patients Undergoing Electroconvulsive Therapy (ECT) in a Selected Psychiatric Hospital

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Abstract: Background: Fear and misinformation still surround electroconvulsive therapy (ECT), often overshadowing the evidence supporting its effectiveness and safety. Families may feel this uncertainty most strongly. They are often the ones asked to provide consent, support their loved one before treatment, and be present during recovery sometimes without a clear understanding of what ECT actually involves. This lack of knowledge can increase their anxiety, making it harder for them to reassure a patient who may already be frightened. This study aims to decrease anxiety and increasing knowledge of family members by administering the structured teaching program. Material and method: We used quantitative approach, pre-experimental one-group pre-test post-test design enrolling 44 family members through non-probability purposive sampling technique. A three-part tool was built for the study, a demographic data, a 20-knowledge questionnaire, and a 15 modified Likert anxiety scale questions. Result: Before the intervention, knowledge of ECT to family members was 27.27% poor, 40.91% average, 31.82% good while anxiety was 13.64% mild, 47.73% moderate and 38.64% severe. A very strong negative correlation ($r = -0.9494$, $p < 0.0001$) meaning that family members who knew more were reliably the ones who worried less. The teaching programme changed both figures substantially. Post-test, 93.18% of participants now scored in the good-knowledge ($t = 9.886$, $df = 43$, $p < 0.0001$), and the same proportion reported only mild anxiety, with no one left in the severe category ($t = 10.733$, $df = 43$, $p < 0.0001$). Education and occupation were the only demographic variables that showed a significant association with pre-test knowledge and anxiety. Conclusion: The study concludes that a structured teaching programme is significantly enhances the knowledge of family members regarding ECT and significantly decreases the anxiety associated with it.

Keywords: Effectiveness, Structured teaching programme, Family members, patient, ECT

1. Introduction

Electroconvulsive therapy (ECT) is a widely used and effective treatment for severe psychiatric disorders, yet it remains surrounded by fear, stigma, and misconceptions due to limited awareness. Family members, who are closely involved in giving consent and providing care before and after each session, often experience considerable anxiety on account of inadequate knowledge about the procedure, its purpose, and its safety, which in turn can affect their support to the patient and the overall treatment process.

Since psychiatric nurses are in close and continuous contact with patients and their families, they are well placed to correct misconceptions and reduce anxiety through structured, evidence-based education.¹

ECT is effective in mental disorders because it helps normalize brain function, improves neurotransmitter balance, and produces rapid symptom relief in severe depression, bipolar disorder, schizophrenia, and catatonia, especially when other treatments have failed²

2. Objectives

- 1) To assess the pre-existing level of knowledge and anxiety regarding ECT among family members of patients undergoing ECT.
- 2) To determine the correlation between the level of knowledge and the level of anxiety among family members of patients undergoing ECT.
- 3) To assess the effectiveness of the structured teaching programme on knowledge and anxiety regarding ECT among family members of patients undergoing ECT.
- 4) To find the association between the level of knowledge and anxiety among family members of patients undergoing ECT with selected demographic variables.

3. Material and Methods

A quantitative approach with a pre-experimental, one-group pre-test post-test design was adopted to evaluate the effectiveness of a structured teaching programme on knowledge and anxiety among family members of patients undergoing ECT at Disha Neuropsychiatry Home, Chhatrapati Sambhajanagar. A non-probability purposive sampling technique was used to select 44 family members based on defined inclusion and exclusion criteria. Data were collected using a three-part structured tool a demographic

proforma, a 20-item knowledge questionnaire, and a 15-item modified Likert anxiety scale validated by six experts, with reliability established through the test-retest method following a pilot study on 10 samples. The pre-test was conducted before the intervention, followed by the structured teaching programme, with a post-test administered on the 7th day. Data were analysed using descriptive statistics (frequency, percentage, mean, SD) and inferential statistics (paired t-test, Karl Pearson's correlation, and Chi-square test) at the 0.05 level of significance.

Data Analysis:

For analysis of data descriptive and inferential statistics were used. Frequency, percentage, mean and standard deviation were used to describe the demographic variables and the scores. The paired t-test was used to compare pre-test and post-test scores, Karl Pearson's correlation coefficient to find the relationship between knowledge and anxiety, and the chi-square test to find the association with demographic variables. A p-value below 0.05 was taken as significance level.

4. Result

Demographic characteristics of family members

Table 1: Distribution of family members according to age, gender, education and relationship with patient, N=44

Variable	Category	f	%
Age	18–30 years	10	22.73
	31–40 years	15	34.09
	41–50 years	11	25
	Above 50 years	8	18.18
Gender	Male	20	45.45
	Female	24	54.55
Education	No formal education	13	29.55
	Primary education	8	18.18
	Higher secondary	12	27.27
	Graduate and above	11	25
Relationship with patient	Spouse	8	18.18
	Parent	8	18.18
	Sibling	9	20.45
	Child	14	31.82
	Other relative	5	11.36

The study was conducted on 44 family members among them with regard to age, the majority of family members, 15 (34.09%), belonged to the '31–40 years' group, followed by 11 (25.0%) in the '41–50 years' group, 10 (22.73%) in the '18–30 years' group, and 8 (18.18%) above 50 years. Regarding gender, more than half of the family members, 24 (54.55%), were female, while 20 (45.45%) were male. With respect to education, the largest proportion, 13 (29.55%), had no formal education, followed by 12 (27.27%) with higher secondary education, 11 (25.0%) who were graduates and above, and 8 (18.18%) with only primary education. Concerning relationship with the patient, the majority of family members, 14 (31.82%), were children of the patient, followed by siblings 9 (20.45%), spouses and parents equally 8 (18.18%) each, and other relatives 5 (11.36%).

Table 2: Distribution of family members according to type of caregiver, type of family, area of residence, monthly income and occupation, N=44

Variable	Category	f	%
Type of caregiver	Primary caregiver	19	43.18
	Secondary caregiver	25	56.82
Type of family	Nuclear	21	47.73
	Joint	16	36.36
	Extended	3	6.82
	Single-parent	4	9.09
Area of residence	Rural	25	56.82
	Urban	19	43.18
Monthly family income	Below Rs. 20,000	10	22.73
	Rs. 20,001–30,000	10	22.73
	Rs. 31,000–40,000	7	15.91
	Above Rs. 40,000	17	38.64
Occupation	Government employee	18	40.91
	Private employee	16	36.36
	Self-employed / business	6	13.64
	Other	4	9.09

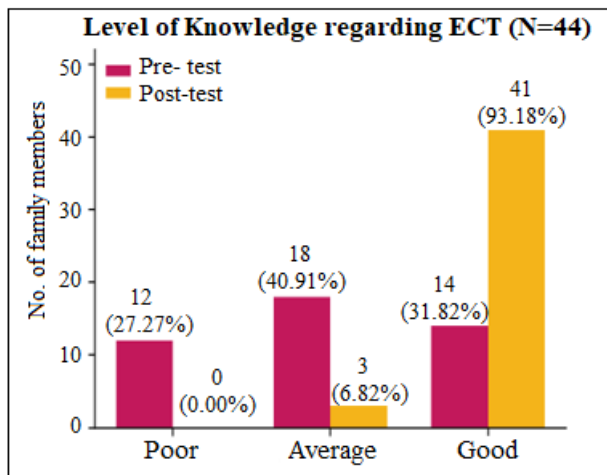
With regard to type of caregiver, more than half of the family members, 25 (56.82%), were secondary caregivers, while 19 (43.18%) were primary caregivers. With respect to type of family, the majority, 21 (47.73%), belonged to nuclear families, followed by 16 (36.36%) from joint families, 4 (9.09%) from single-parent families, and 3 (6.82%) from extended families. Concerning area of residence, more than half of the family members, 25 (56.82%), resided in rural areas, while 19 (43.18%) resided in urban areas. Regarding monthly family income, the largest group, 17 (38.64%), had an income above Rs. 40,000, followed by 10 (22.73%) each in the 'below Rs. 20,000' and 'Rs. 20,001–30,000' categories, and 7 (15.91%) in the 'Rs. 31,000–40,000' category. With respect to occupation, the majority, 18 (40.91%), were government employees, followed by 16 (36.36%) private employees, 6 (13.64%) self-employed/business, and 4 (9.09%) in other occupations.

Level of Knowledge and Anxiety in Pre Test and Post Test

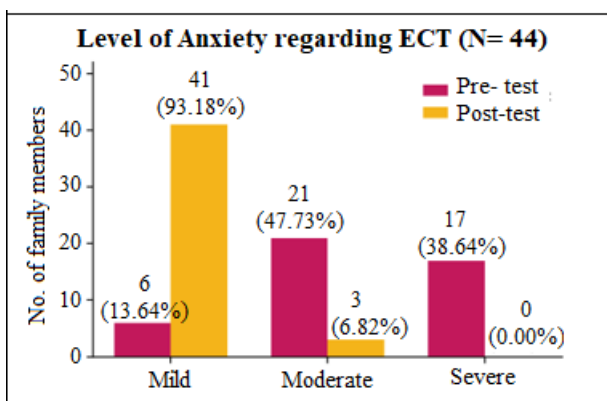
In the pre-test, 31.82% of family members had good knowledge, 40.91% had average knowledge, and 27.27% had poor knowledge regarding ECT. After the structured teaching programme, in the post-test, 93.18% had good knowledge, 6.82% had average knowledge, and 0.0% had poor knowledge. This shows a marked improvement in knowledge scores after the structured teaching programme. In the pre-test, 38.64% of family members had severe anxiety, 47.73% had moderate anxiety, and 13.64% had mild anxiety regarding ECT. After the structured teaching programme, in the post-test, 93.18% had mild anxiety, 6.82% had moderate anxiety, and 0.0% had severe anxiety. This shows a marked reduction in anxiety after the structured teaching programme.

Table 3: Level of knowledge and anxiety in pre-test and post test

Variable	Level	Pre-test f (%)	Post-test f (%)
Knowledge	Poor (0–6)	12 (27.27)	0 (0.00)
	Average (7–13)	18 (40.91)	3 (6.82)
	Good (14–20)	14 (31.82)	41 (93.18)
Anxiety	Mild (0–25)	6 (13.64)	41 (93.18)
	Moderate (26–50)	21 (47.73)	3 (6.82)
	Severe (51–75)	17 (38.64)	0 (0.00)



Graph 1: Level of knowledge in pre-test and post test



Graph 2: Level of anxiety in pre-test and post test

Effectiveness of Structured Teaching Programme on Knowledge and Anxiety Regarding ECT

Table 4: Effectiveness of structured teaching programme on knowledge and anxiety regarding ECT

Variable	Test	mean	SD	Paired t	df	p value
Knowledge	Pre-test	10.5	5.07	9.886	43	< 0.0001 (S)
	Post-test	18.07	2.14			
Anxiety	Pre-test	44.23	15.63	10.733	43	< 0.0001 (S)
	Post-test	19.2	2.42			

Table No. 4 depicts the effectiveness of the structured teaching programme on knowledge and anxiety among 44 family members of patients undergoing ECT. The mean pre-test knowledge score was 10.5 with SD 5.07, compared with a mean post-test score of 18.07 with SD 2.14. The computed paired 't' value was 9.886 with df = 43 and 'p' < 0.0001, which is statistically significant at the 0.05 level. In case of anxiety, the mean pre-test anxiety score was 44.23 with SD 15.63, compared with a mean post-test score of 19.2 with SD 2.42. The computed paired 't' value was 10.733 with df = 43 and 'p' < 0.0001, which is statistically significant at the 0.05 level.

Correlation in Knowledge and Anxiety

Table 5: Correlation in knowledge and anxiety:

Scores correlated	r	df	p value	Result
Pre-test knowledge vs. pre-test anxiety	-0.9494	42	< 0.0001	S
Post-test knowledge vs. post-test anxiety	-0.1962	42	0.2019	NS

In the pre-test, knowledge and anxiety scores had very strong negative correlation ($r = -0.9494$, $df = 42$, $p < 0.0001$). Family members who knew less about ECT were more anxious. The coefficient of determination ($r^2 = 90.13\%$) shows that about nine-tenths of the variation in anxiety went along with knowledge. In the post-test the correlation was weak and not significant ($r = -0.1962$, $p = 0.2019$).

Association between Pre-Test Knowledge and Anxiety and Demographic Variables:

Table 6: Association between pre-test knowledge and anxiety and demographic variables

Variable	df	Knowledge χ^2	p	Anxiety χ^2	p
Age	6	10.335	0.1112	9.799	0.1334
Gender	2	0.258	0.8792	0.215	0.898
Education	6	24.468	0.0004	15.398	0.0174
Relationship with patient	8	2.096	0.9779	2.683	0.9526
Type of caregiver	2	4.051	0.1319	0.342	0.8427
Type of family	6	4.161	0.6548	3.546	0.7379
Area of residence	2	1.576	0.4547	3.636	0.1624
Monthly family income	6	5.261	0.5108	5.292	0.507
Occupation	6	14.108	0.0285	15.934	0.0141

The chi-square test showed that pre-test knowledge was significantly associated with education ($\chi^2 = 24.468$, $p = 0.0004$) and occupation ($\chi^2 = 14.108$, $p = 0.0285$). Pre-test anxiety was also significantly associated with education ($\chi^2 = 15.398$, $p = 0.0174$) and occupation ($\chi^2 = 15.934$, $p = 0.0141$). Age, gender, relationship with the patient, type of caregiver, type of family, area of residence and monthly income showed no significant association with demographic variables.

5. Discussion

In present study, prior to structured teaching program, 31.82% of family members had good knowledge, 40.91% had average knowledge, and 27.27% had poor knowledge regarding ECT. Hiremath and Rani saw a very similar pattern among 100 relatives in Bangalore, where 47% had average, 30% poor and 23% good knowledge.³

At the same time, most of them felt moderate to severe anxiety, with less than 14% having only mild anxiety. This shows that families usually know very little about ECT and feel quite worried before anyone explains it to them. A similar study by Dan et al. also found that relatives generally lacked basic knowledge about ECT, which matches our finding and shows this is a common problem, not just something seen in this one study.⁴

Before teaching, the study found a strong link between low knowledge and high anxiety as knowledge decreases, anxiety increases and this pattern was very clear ($r = -0.9494$). In fact, about 90% of the differences in anxiety levels could be explained just by differences in knowledge. After teaching, almost everyone now had good knowledge and low anxiety. This supports the idea that teaching families about ECT can directly help reduce their fear. A study by Zhou et al. on caregivers of schizophrenia patients found a similar pattern more knowledge meant less anxiety supporting our result in a different but related caregiving setting.⁵

The teaching programme worked very well. Average knowledge scores rose sharply from 10.5 to 18.07, and the number of family members with good knowledge jumped from 32% to 93%, with no one left in the "poor knowledge" group afterward. Anxiety dropped just as strongly, from an average of 44.23 to 19.2, and severe anxiety disappeared completely after teaching. Both of these changes were highly significant, confirming that the programme clearly improved knowledge and reduced fear. Shamsaei et al. found similar results using a multi-session family teaching programme before ECT, which also reduced anxiety and stress in caregivers.⁶

When looking at family background details, only education level and occupation were clearly linked to how much a person knew and how anxious they felt about ECT, both before teaching. Other factors like age, gender, income, or type of family showed no significance. This means the teaching programme's benefit isn't limited to any one type of family but education and job status may still influence a person's starting point. Rajagopal et al. found something similar that relatives who were more educated and employed tended to have better knowledge and more positive views about ECT, which lines up well with our finding.⁷

6. Conclusion

The study concludes that a structured teaching programme is an effective, low-cost, and easily implementable nursing intervention that significantly enhances the knowledge of family members regarding ECT and significantly alleviates the anxiety associated with it. These findings reinforce the crucial role of psychiatric nurses as educators and underscore the need to integrate structured, family-centred psychoeducation into routine psychiatric nursing care in order to promote better understanding, reduce caregiver distress, and support improved treatment cooperation and recovery outcomes for patients undergoing ECT.

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