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A Study To Assess The Effectiveness Of Psycho Education On Knowledge And Attitude Regarding Electroconvulsive Therapy (ECT) Among The Caregivers Of Psychotic Mentally Ill Patients At Hospital, Bhubaneswar, Odisha

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Abstract

Electroconvulsive therapy (ECT) remains an effective yet controversial psychiatric treatment. This study assessed the knowledge and attitude of caregivers of psychotic patients toward ECT and evaluated the effectiveness of psycho education. An evaluative quasi-experimental study was conducted among 80 caregivers (40 IPD and 40 OPD) using a semi-structured questionnaire and Likert scale. Psycho education was provided to the IPD group, and post-test data were collected after seven days. Findings revealed significant improvement in knowledge (t=14.34) and attitude (t=9.49) in the IPD group, while minimal change was observed in the OPD group. The correlation between knowledge and attitude in the IPD group was strong (r=0.81). The study concluded that psycho education effectively improved caregivers' knowledge and attitude regarding ECT.

Keywords: Psycho education, Knowledge, Attitude, Electroconvulsive Therapy (ECT), Caregivers, Mentally Ill, Effectiveness.

INTRODUCTION

Knowledge explosion and the impact of science and technology are being felt in all walks of life. Its impact is greatly felt in medical science where in more complicated instruments have been designed and used in various types of diseases. One such design used in treating mental illness is ECT. Worldwide, it has been estimated that about 1 million patients receive ECT annually. ECT appears to have become a widely available treatment for mental disorders on all continents. A survey of the practice of ECT in 188 teaching institutions and psychiatric hospitals in India, showed that more than 70% of ECT administrations were performed in psychiatric hospitals and approximately half of ECT use was on unmodified ECT .

Chavan BS. et. al. (2006) stated that, people had lack of knowledge and inappropriate attitude towards ECT. As care givers stay continuously with the patient and various render care, they may possess some knowledge and have some kind of attitude towards ECT. [(1)]

Edmonson (2020) conducted a study at Abilene Christian University to address knowledge gaps about electroconvulsive therapy (ECT) among mental health nurses. Using adult learning principles, the study aimed to improve nurses' understanding and care for ECT patients. Of the psychiatric hospital's staff, 119 nurses (mostly female, aged 50+, and experienced in mental health nursing) participated. An electronic pre- and post-test survey followed an educational session. Results showed a significant improvement in knowledge scores (from M = 0.89 to M = 1.35), but attitudes toward ECT remained unchanged (from M = 3.79 to M = 3.52). The intervention effectively increased knowledge but did not influence attitudes. [(2)]

Grover (2020), studied adolescents (≤19 years) who received electroconvulsive therapy (ECT). Among 1,260 ECT recipients, 51 were adolescents (4.04%), with records of 50 analyzed. Schizophrenia was the most common diagnosis (42%), followed by bipolar disorder (22%) and depression (20%). Each patient received an average of 8.84 ECT sessions. Improvement rates were high—around 77–80% across disorders, with remission seen in most depression (72.7%) and mania (77.8%) cases. Minor complications included transient blood pressure changes (18%). The study concluded that ECT is a safe and effective treatment for severe mental disorders in adolescents. [(3)]

Wani (2017) from the Department of Psychiatry, Government Medical College, Srinagar, conducted a study on the knowledge and attitudes of patients and their relatives toward electroconvulsive therapy (ECT) at a tertiary care center in Northern India. Using a 16-item Urdu questionnaire, data were collected from 60 patients and 60 attendants. Around 60–70% correctly identified ECT as a life-saving procedure and knew about necessary pre-ECT investigations, but awareness about its use in pregnancy and older adults was low. Most participants learned about ECT from doctors. The study highlighted limited knowledge about ECT and the need for a more standardized assessment tool. [(4)]

Sharma and Ghai (2017), conducted a descriptive cross-sectional study on 183 first- and third-year nursing students in India to assess their knowledge and attitudes toward electroconvulsive therapy (ECT). Using 32-item knowledge and 16-item attitude questionnaires, data were analyzed with Pearson's correlation and ANOVA. While mean scores did not differ significantly between groups, a strong positive correlation was found between knowledge and attitude ($r = -0.596$, $p < .001$). About 60.8% cited media as their main information source. The study highlighted limited knowledge and the influence of negative media portrayals on attitudes toward ECT. [(5)]

Kumar and Eugin (2017) conducted a quantitative, descriptive cross-sectional study on 120 caregivers of patients receiving electroconvulsive therapy (ECT) to assess their knowledge and attitudes. Using a researcher-developed questionnaire, they found a significant positive correlation between knowledge and attitude toward ECT ($p = .0213$) and between education level and knowledge ($p = .043$). Despite these findings, knowledge gaps about ECT remained common, highlighting the need for better education among healthcare providers to reduce stigma and misconceptions about the treatment. [6]

AMITAVA DAN A, 2014 we conducted knowledge and attitude regarding ECT were assessed using the Bengali version of the ECT knowledge and attitude questionnaires, between 100 clinically stable patients with mental illness and their health relatives. No significant difference was observed in knowledge and attitude patients who had obtained their facts from doctors (n=23) and from other source (n=77), relatives had obtained their information from doctors (n=27) were better informed than those who had obtained so from other sources (n=73). [7]

Igwe (2014), studied undergraduate nursing students' perceptions of electroconvulsive therapy (ECT). The total mean score was 7.53 ± 2.65. Students who had observed an ECT procedure scored 6.98 ± 1.92, while those willing to accept ECT if indicated scored 7.14 ± 2.21. No significant differences were found between groups ($p > 0.05$). The study emphasized the need to strengthen ECT education in nursing curricula. [8]

Mkheiri et al. (2011), studied the impact of education on knowledge and attitudes toward electroconvulsive therapy (ECT) among 46 Iranian nurses and 46 patient relatives. Using pre- and post-test questionnaires, results showed significant improvements in both knowledge (from $M = 34.97$ to 39.78, $p < 0.05$) and attitude (from $M = 33.41$ to 42.82, $p < 0.001$) after the educational session. [9]

METHODOLOGY

Study Design

This study adopted a quasi-experimental design with pre-test and post-test for experimental (IPD) and control (OPD) groups Pre-experimental.

Study Setting

Psychiatric Inpatient and Outpatient Departments of Hi-Tech Medical College & Hospital, Bhubaneswar, Odisha, India.

Population

All caregivers of psychotic mentally ill patients (both IPD and OPD) attending the Psychiatric Department of Hi-Tech Medical College and Hospital, Bhubaneswar, Odisha.

Sampling Method

In this study non-probability convenience sampling technique is used.

Study duration

Data collection was conducted over a period of one month after obtaining permission from the hospital authorities and ethical clearance.

Sample size

A total of 80 caregivers (40 from IPD and 40 from OPD) were included in this study. The sample size was determined using Yamane's formula.

According to Yamene's formula

$n = N/ (1+ N e^2)$

Here n= Sample size, N = Population size, e = Percentage of error i.e. 0.05

Inclusion and exclusion criteria

Inclusion criteria included Caregivers of psychotic mentally ill patients (diagnosed with mania, schizophrenia, bipolar affective disorder, depression, or anxiety disorder). Those attending inpatient or outpatient psychiatric units. Willing to participate and available during data collection.

Caregivers not willing to participate. Those unavailable during post-test. Caregivers of patients with severe co morbid physical illnesses were excluded.

Description of the tools

Data were collected using three tools:

Tool-1: Self-structured socio-demographic questionnaire (Age, sex, education, occupation, relationship to patient, residence, duration of stay with patient, source of information).

Tool-2: Semi-structured knowledge questionnaire (24 items, 1 mark per correct response)

Tool- 3: 5-point Likert attitude scale (15 items, max 75 marks)

Tool validation

Content validity: Reviewed by 5 experts (1 medical professionalism, 4 nursing professionalism). Reliability tested using test-retest method; correlation coefficient (r = 0.9), indicating high reliability. Pre-testing (tryout) done in hospital for clarity, ambiguity, and timing.

Study variables

Demographic variables: Age, sex, education, occupation, relationship to patient, residence, duration of stay with patient, source of information.

Independent variables: Psycho education on ECT

Dependent variables: Knowledge and attitude regarding ECT.

Data collection procedure

Pre-Test (Day 1): Conducted for both IPD and OPD caregivers.

Tools used: Semi-structured knowledge questionnaire to assess baseline knowledge on ECT. 5-point Likert scale to assess attitude toward ECT.

Intervention (Day 2): Psycho education Programme. Psycho education was given only to the IPD caregivers (experimental group).

Content covered:

Meaning and purpose of ECT.

Indications and contraindications.

Procedure and safety measures.

Myths and misconceptions about ECT.

Role of family and caregivers during and after ECT.

Teaching methods: Lecture-cum-discussion with audiovisual aids (charts, pamphlets, and posters). Duration: Approximately 45–60 minutes per session.

Post-Test (Day 7): Conducted after one week for both groups using the same tools as in the pre-test. Aimed to assess the effectiveness of psycho education on caregivers' knowledge and attitude regarding ECT.

Ethical considerations

Approval from Dissertation Committee and hospital authorities. Informed consent from participants. Assurance of anonymity, confidentiality, and privacy. Voluntary participation.

Statistical Analysis

SPSS version 21 was used for data analysis. Demographic information and baseline characteristics were summarized using descriptive statistics, including mean values, standard deviations, and frequency counts. The data will be collected and analyzed with descriptive and inferential statistical techniques. The demographic variables will be analyzed by using frequency and percentage. The frequency tables will be formulated for all significant information. Descriptive statistics (frequency, percentage, mean, SD) for demographic data and knowledge scores. Inferential statistics: paired 't' test to compare pre-test and post-test scores, Chi-square to test association with demographic variables. Karl Pearson correlation – to assess relationship between knowledge and attitude. Significance level: *p* < 0.05.

Theoretical framework

Ludwig von Bertalanffy's General System Theory views an individual or group as an open system that interacts dynamically with its environment. The system receives input, processes it, and produces output, which in turn provides feedback to the system. This continuous process of exchange leads to adaptation and growth. The caregivers of mentally ill patients are considered as an open system whose knowledge and attitude can be influenced by educational input (psycho education). The change in their knowledge and attitude is observed as the output of the system.

Input: Psycho educational intervention on Electroconvulsive Therapy (ECT) — including meaning, purpose, procedure, benefits, side effects, and caregiver roles.

Throughput (Process): The caregivers receive and process the information through active participation, discussion, and clarification during psycho education sessions.

Output: Improved knowledge and attitude of caregivers regarding ECT, as measured by post-test scores.

Feedback Post-test evaluation provides feedback on the effectiveness of psycho education and indicates areas requiring reinforcement or further education.

Environment: The hospital setting (Hi-Tech Medical College & Hospital, Bhubaneswar) where caregivers interact with patients, nurses, psychiatrists, and other healthcare professionals.

The General System Theory provided a scientific framework to understand how educational intervention (input) leads to measurable behavioural and cognitive changes (output) among caregivers of psychotic mentally ill patients. The model supports continuous evaluation and feedback, promoting learning and adaptation through psycho education.

RESULTS

Table-1: Frequency and percentage distribution of demographic variables of care givers of mentally ill regarding ECT in both IPD & OPD group.

N= 80

DEMOGRAPHIC VARIABLES	IPD CARE GIVERS		OPD CARE GIVERS	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Age				
≥25 yrs	02	05	02	05
26-35 yrs	05	12.5	05	12.5
36-45 yrs	18	45	15	37.5
46-55 yrs	14	35	18	45
Sex				
Male	10	25	10	25
Female	30	75	30	75
Relationship to Patient				
Spouse	24	60	24	60
Parents	14	35	16	40
Relatives	02	05	-	-
Others	-	-	-	-
Education				
Illiterate	13	32.5	13	32.5
Primary	03	7.5	03	7.5
Secondary	04	10	04	10
Higher secondary Diploma	09	22.5	10	25
Degree	03	7.5	02	05

	08	20	08	20
Occupation				
Employee	13	32.5	21	52.5
Un-employee	27	67.5	19	47.5
Retired	-	-	-	-
Any other	-	-	-	-
Area of residence				
Urban Rural	09	22.5	08	20
Semi urban	15	37.5	18	45
	16	40	14	35
others	-	-	-	-
Duration of stay with the patient				
≤5yrs	24	60	25	62.5
6-10yrs	16	40	15	37.5
11-15 yrs	-	-	-	-
>16yr	-	-	-	-
Source of information				
Medical personnel	21	52.5	23	57.5
Media Friends/relatives	- 05	- 12.5	- 03	-
None	14	35	14	7.5
				35

The above table-1 revealed that age, sex, education, occupation, relationship to patient, residence, duration of stay with patient, source of information.

Table- 2: Frequency and percentage distribution of pre test levels of knowledge among the care givers of mentally ill regarding ECT in both IPD and OPD groups.

N=80

LEVELS OF KNOWLEDGE	IPD GROUP		OPD GROUP	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Inadequate knowledge	28	70%	29	72.5%
Moderately adequate Knowledge	12	30%	11	27.5%

The data presented in table-2 revealed that the pre-test assessment showed that in the IPD group, 70% of caregivers had inadequate knowledge and 30% had moderately adequate knowledge. Similarly, in the OPD group, 72.5% had inadequate and 27.5% had moderately adequate knowledge. None had adequate knowledge in either group.

Table- 3: Frequency and percentage distribution of pre test levels of attitude among the care givers of mentally ill in both IPD and OPD group.

N =80

LEVELS OF ATTITUDE	IPD GROUP		OPD GROUP	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Inadequate attitude	33	82.5%	29	72.5%
Moderately adequate attitude	07	17.5%	11	27.5%

Table- 3 shows that in the pre-test assessment showed that in the IPD group, 82.5% of caregivers had an inadequate attitude and 17.5% had a moderately adequate attitude. In the OPD group, 72.5% had an inadequate and 27.5% had a moderately adequate attitude. None had an adequate attitude in either group.

Table- 4: Frequency and percentage distribution of post test levels of knowledge among the care givers of mentally ill regarding ECT in both IPD and OPD group. **N =80**

LEVELS OF KNOWLEDGE	IPDGROUP		OPDGROUP	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Inadequate knowledge	-	-	24	60%
Moderately adequate knowledge	11	27.5%	16	40%
Adequate knowledge	29	72.5%	-	-

Table-4 revealed that the The post-test assessment showed that in the IPD group, 72.5% of caregivers had adequate knowledge and 27.5% had moderately adequate knowledge, with none having inadequate knowledge. In contrast, in the OPD group, 60% had inadequate and 40% had moderately adequate knowledge, with none having adequate knowledge.

Table- 5: Frequency and percentage distribution of post test levels of attitude among the care givers of mentally ill in both IPD and OPD group.

LEVELS OF ATTITUDE	IPD GROUP		OPD GROUP	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Inadequate attitude	-	-	27	67.5%
Moderately adequate attitude	14	35%	13	32.5%
Adequate attitude	26	65%	-	-

N= 80

The table shows a post-test assessment showed that in the IPD group, 65% of caregivers had an adequate attitude and 35% had a moderately adequate attitude, with none having an inadequate attitude. In the OPD group, 67.5% had an inadequate and 32.5% had a moderately adequate attitude, with none having an adequate attitude.

Table- 6: Comparison of pre and post test levels of knowledge and attitude regarding ECT among the care givers of mentally ill in both IPD and OPD group.

N= 80

GROUP	VARIABLES	PRE TEST		POST TEST		Paired "t" test value
		MEAN	SD	MEAN	SD	
IPD group	Knowledge	10.1	3.9102	20.5	3.1384	t= 14.3428*
OPD group		9.875	4.5065	11.15	3.8700	t = 2.0088
IPD group	Attitude	24.825	7.6186	48.7	14.3460	t = 9.4977*
OPD group		24.95	8.6384	26.975	5.7466	t = 1.7873

***significant at p≤0.05 level**

In the IPD group, post-test scores showed a significant improvement in both knowledge (t = 14.34) and attitude (t = 9.50) compared to pre-test scores, as the calculated values exceeded the table value (2.02) at the 0.05 level. In contrast, the OPD group showed no significant improvement in either knowledge (t = 2.01) or attitude (t = 1.79), as both values were below the table value.

Table- 7: Assess the correlation between the post test scores of knowledge and attitude regarding ECT among the care givers of mentally ill in both IPD and OPD group. N=80

GROUP	POST TEST		POST TEST		"r" value
	MEAN	SD	MEAN	SD	
IPD group	20.5	3.1384	48.7	14.3460	0.8Positive and highly significance
OPD group	11.15	3.8700	26.975	5.7466	0.3Positive and moderate significance

In the IPD group, post-test scores showed a significant improvement in both knowledge (t = 14.34) and attitude (t = 9.50) compared to pre-test scores, as the calculated values exceeded the table value (2.02) at the 0.05 level. In contrast, the OPD group showed no significant improvement in either knowledge (t = 2.01) or attitude (t = 1.79), as both values were below the table value.

In the IPD group, a significant association was found between occupation and duration of stay with pre-test knowledge levels, while other factors showed no association. For attitude, occupation and source of information showed significant associations, whereas other variables had no significant relationship at the 0.05 level.

In the OPD group, a significant association was found between occupation and pre-test levels of both knowledge and attitude regarding ECT. No significant association was observed with other demographic variables such as age, sex, relationship to the patient, education, area of residence, duration of stay, or source of information at the 0.05 level.

DISCUSSION

The present study was supported by a survey conducted by Kumar and Eugin (2017) conducted a quantitative, descriptive, cross-sectional study of 120 caregivers to assess their knowledge and attitude toward ECT. They found a significant positive correlation between knowledge and attitude (p = .0213) and between education level and knowledge (p = .043). Despite these correlations, knowledge gaps about ECT persist, even among medical professionals, highlighting the need for improved education to reduce stigma and barriers to this treatment for serious mental illness. [10]

The present study was supported by Amitava Dan (2014) assessed knowledge and attitude toward ECT using Bengali questionnaires among 100 clinically stable patients and their caregivers. Patients' knowledge and attitude did not differ significantly based on whether they received information from doctors (n=23) or other sources (n=77). However, caregivers who received information from doctors (n=27) were better informed than those who obtained it from other sources (n=73). [11]

The present study was supported by Alaa El Din M. Darweesh (2013) assessed knowledge and attitude about ECT among 450 caregivers of psychiatric patients (286 men, 264 women). About 50.4% had not received any information about ECT, and the main factor influencing their knowledge and attitude was the patients' prior experience with ECT. [12]

LIMITATION:

Small sample size limited generalization. Time-consuming data collection.

CONCLUSION:

The present study concluded that psycho education is an effective method for improving the knowledge and attitude of caregivers regarding Electroconvulsive Therapy (ECT). The results revealed a statistically significant increase in both knowledge and attitude scores among caregivers in the inpatient (IPD) group after the psycho educational intervention, while the outpatient (OPD) group showed minimal change. A strong positive correlation was found between post-test knowledge and attitude, indicating that better understanding leads to more favourable perceptions of ECT

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Conflicts of interest

There are no conflicts of interest for the writers.

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Ethics Approval

Approval from Dissertation Committee and hospital authorities. Informed consent from participants. Assurance of anonymity, confidentiality, and privacy. Voluntary participation.

DATA AVAILIBILITY

The data is available and can be accessed with a reasonable request.

ABBREVIATIONS

ECT: Electroconvulsive Therapy, IPD: Inpatient Department, OPD: Outpatient Department, SD: Standard Deviation, r: Correlation Coefficient, t: Test Statistic.

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