

Original Article

Knowledge and Attitude of Nursing Students toward Electroconvulsive Therapy

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ABSTRACT

Background: Electroconvulsive therapy (ECT) is one of the commonly used treatment modalities for patients with severe mental disorders. However, acceptance of ECT by the patient and relatives often depends on how the health-care professionals themselves present the treatment modality to the patients and their relatives. There is a lack of information about the knowledge and attitude toward ECT among health professionals. **Aim:** This study aimed to evaluate the knowledge about and attitude toward ECT among nursing students. **Methodology:** Knowledge of and attitudes toward ECT among nursing students were assessed using ECT knowledge and attitude questionnaires. **Results:** The study included 183 nursing students. Majority ($n = 62$; 60.8%) of the participants obtained information about ECT from media (movies, television, print media, etc.). None of the students had full knowledge about ECT. Although a significant proportion of students had knowledge about the ECT procedure and consent procedure, majority of them had poor knowledge about the effectiveness, mechanism of action, indications, and side effects of ECT. Negative attitudes were also highly prevalent, with more than two-thirds of the participants having negative attitudes toward ECT on more than half of the attitude items of the scale. Total knowledge score positively correlated with total attitude score, suggesting that higher knowledge was associated with more positive attitude. **Conclusions:** Although nursing students have knowledge about basic ECT procedure and consent, they lack knowledge about the effectiveness, mechanism of action, indications, and side effects of ECT. Negative attitude toward ECT is also highly prevalent among nursing students. Accordingly, there is a need to improve the knowledge and address the negative attitude of nursing students, which may ultimately lead to better acceptance of the treatment.

KEYWORDS: Attitude, electroconvulsive therapy, knowledge, nurses, students

INTRODUCTION

Although electroconvulsive therapy (ECT) is one of the most effective treatments for various psychiatric disorders since its introduction, it is one of the most controversial and scrutinized therapies in psychiatry.^[1] There are multiple issues paving such controversies including the crude historical beginnings of therapy, the continuing and substantial adverse cognitive side effects, and the divergent views of clinicians, nurses, and consumers about ECT.^[2] The negative connotations related to the ECT tend to

get reinforced from lack of knowledge and negative attitudes. A large number of studies from developing and developed countries have focused on the knowledge and attitude of patients and their caregivers toward ECT, and the evidence suggests that patients undergoing ECT are often poorly informed about the ECT.^[3,4] In contrast to patients and relatives, there is limited data

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about the knowledge and attitude of various health-care professionals toward ECT.

There are few studies from various developing countries which have assessed the knowledge and attitude of various medical professionals, including medical students, physicians, psychologists, social workers, nurses, and student nurses.^[5] Some of the existing studies suggest that psychiatric nurses and nursing students have significantly poorer knowledge and more negative attitude toward ECT compared to medical students.^[6] Further, it has been observed that registered mental health nurses have more knowledge and positive attitude toward ECT than student nurses.^[7] Data also suggest that among nurses, better knowledge about ECT is associated with more positive attitudes.^[2,5] It is suggested that nurses' relationships with and attitudes toward patients during the treatment process (engaged, present, or detached) have an impact on how they and the patient will perceive ECT.^[3] The nurses with negative attitudes toward ECT are likely to reflect such negativity in their practice as well. Studies suggest that nurses with negative attitude toward ECT express boredom, apathy, and hostility toward patients undergoing ECT.^[8] Data also suggest that education programs in the form of brief lectures, viewing of educational videotapes, getting familiar with the equipment used for ECT, and observing the ECT treatment procedure can improve the negative attitudes.^[5]

There are few studies from developing countries evaluating the knowledge and attitude of various medical professionals toward ECT. A study from Nigeria compared the knowledge of medical students, students pursuing Master of Science and Clinical Psychology students pursuing Doctor of Philosophy, and a sample of the general public reported that medical students had more knowledge and had more positive attitude than the other two groups.^[9] Another study from the same country evaluated the knowledge of and attitude toward ECT of medical students at the time of completion of an 8-week clinical rotation in psychiatry and reported that most of the students had positive attitude toward ECT.^[10] Although there are many studies from India, evaluating the knowledge and attitude of patients and their relatives toward ECT,^[3,4] there is a lack of data on medical professionals.

Nurses play an essential role in ECT, because of their close involvement with patients before and after the procedure. The knowledge and attitude of the nursing staff working in ECT rooms can have direct impact on the quality of their nursing practice. Before planning to address the poor knowledge and negative attitudes toward ECT among nurses, it is important to understand

their baseline knowledge and attitude toward ECT. For this, the best suited group would be nursing students who have not been exposed to the ECT and psychiatry rotation. Accordingly, the aim of this study was to evaluate the knowledge about and attitude of nursing students toward ECT.

METHODOLOGY

This cross-sectional study was approved by the research and ethics committee of the institute where it was conducted. All the participants were nursing students undergoing training from a national-level institute. To be included in the study, the nursing students were required not to have done their psychiatry rotation. They were explained about the nature of the study. Consenting individuals who agreed to participate and provided written informed consent were recruited. The sociodemographic profile sheet was completed. Then, the students were asked to complete the questionnaire for assessment of knowledge and attitude toward ECT.

The knowledge part of the questionnaire has 32 questions which cover various aspects of ECT such as the procedure, informed consent, efficacy/usefulness of ECT, and side effects of ECT. The first item of the knowledge part of the questionnaire also inquires about the primary source of information regarding ECT among the patients. Rest of the items of the knowledge part has three options, one of which indicates correct knowledge, another option indicates lack of knowledge, and the third option "don't know," which again suggests the lack of knowledge. For understanding the level of knowledge, all the correct responses to question number 2–32 were given a score "+1" and wrong responses or "don't know" responses were scored as "0." Accordingly, the total knowledge score could vary from 0 to 31. The attitude part of the questionnaire has 16 items which specifically look at the attitude toward ECT. Each item in attitude questionnaire has three responses - a response suggesting positive attitude, the second response indicating a negative response, and a "don't know" response indicating neutral attitude. For calculating the total attitude score, positive attitude response was rated as "+1," negative attitude was rated as "-1," and the neutral response was rated as "0." Accordingly, the total attitude score could vary from -16 to 16.^[11]

Being largely a descriptive study, only a bare minimum analysis of the data (using the Statistical Package for the Social Sciences, version 14) was done. Categorical variables are described using frequency/percentage and continuous variables are described as mean and standard deviation (SD). Association of knowledge and attitude

was evaluated using Pearson's correlation coefficient. Mean scores were compared using ANOVA test.

RESULTS

A total of 183 nursing students were included in the study. Most of the participants ($n = 74$; 40.4%) were in their 1st year of BSc nursing course and this was followed by those in the 3rd year of the course ($n = 65$; 35.5%) and the remaining students were in the 2nd year of the BSc nursing course ($n = 44$; 24%). Those coming from urban background ($n = 97$; 53%) outnumbered those from rural background ($n = 86$; 47%). Very few ($n = 10$; 5.5%) of the participants had any experience of ECT in terms of a close friend/family member having undergone treatment with ECT.

Source of information

The first item of the knowledge questionnaire assesses the primary source of information about ECT. About one-fourth ($n = 47$; 25.7%) of the participants could not give any particular source of information. Among the reported sources, the most common primary source of information was movies ($n = 30$; 16.4%), followed by course or lecture ($n = 20$; 10.9%), television ($n = 24$; 13.1%), newspapers, books, magazines ($n = 17$; 9.3%), experience of friends or relatives ($n = 15$; 8.2%), explanation from other staff, for example, nurses, social workers ($n = 9$; 4.9%), general word of mouth ($n = 6$; 3.3%), professional publications ($n = 5$; 2.7%), explanation by a psychiatrist ($n = 5$; 2.7%), and explanation by a physician ($n = 4$; 2.2%).

Knowledge about electroconvulsive therapy

On the knowledge questionnaire, majority of the participants had knowledge about the ECT procedure and consent procedure. However, on a closer look at the responses for various aspects of procedure, as shown in Table 1, less than half (45.9%) of the participants were aware about the number of ECTs administered in a course, about half (54.1%) were aware about the frequency of ECT per week, and only two-thirds (68.8%) were aware of the need for investigations prior to ECT. Similarly, only about half (53.6%) of the participants were aware that ECT cannot be given against the wishes of the patients. In terms of indications for ECT, almost all (97.3%) participants were aware that ECT is used for the management of acute psychiatric conditions and more than two-thirds (72.1%) were aware that ECT can be given to outpatients also. However, only about half or lesser number of participants were aware that ECT is not given to only those patients who have little chance of improvement (41.5%), but it can also be given to the elderly (50.8%) and pregnant women (35.5%). In terms of effectiveness and mechanism of action, about

two-thirds of the participants were aware that ECT is useful in treating psychiatric disorders (67.2%) and it is more useful than medications (66.7%). Majority of the participants were aware that ECT does not worsen the psychiatric illness (76.5%), works by correcting the brain changes causing symptoms (88%), and does not lead to permanent cure of the illness (77%). Only about half (56.3%) of the participants were aware that there is scientific evidence favoring usefulness of ECT and only one-fourth (25.7%) were aware that the effect of ECT lasts only for a short while.

In terms of side effects, more than two-thirds of the patients were aware about the various side effects of ECT except for the fact that headache is common after ECT and use of ECT does not lead to epilepsy later on.

None of the participants had full knowledge about ECT (i.e., scored full score of 31). The mean knowledge score was 21.92 (SD - 6.18) with a range of 5–31, with majority of the participants (64.5%) scoring >20.

Attitudes toward electroconvulsive therapy

As shown in Table 2, on 9 out of the 16 items, more than two-thirds of the participants had negative attitudes toward ECT. On 6 out of the 17 items, more than two-thirds of the participants had positive attitudes. On one item (i.e., ECT gets a person better quicker than drugs), the findings were mixed, with those with negative attitudes (41.5%) outnumbered those with positive attitudes (34%). The frequency of ambivalent attitude on each item varied from 3.3% to 24%. On the whole, not even a single participant had positive attitude on all the items of the questionnaire.

The mean attitude score for the participants was 10.63 (SD - 4.81) with a range of -11 to +15. Majority ($n = 176$; 96.5%) of the participants had total attitude score in the positive range.

Relationship of knowledge and attitude

Total knowledge and total attitude scores correlated positively (Pearson's correlation coefficient - 0.596, $P < 0.001$), indicating that better knowledge was associated with more positive attitude and vice versa.

Relationship of knowledge and attitude with place of residence

There was no significant difference in the mean knowledge and mean attitude scores between those from urban and rural background. The mean knowledge score was significantly lower for those in the 1st year nursing compared to those in the second and 3rd years with no significant difference between those in the 2nd year and 3rd year ($F = 169.8$; $P < 0.001$). Similar trend was seen for mean attitude scores too ($F = 33.3$; $P < 0.001$).

Table 1: Knowledge of electroconvulsive therapy among nursing students

	Correct response	n (%)
Procedure		
During ECT, which anesthetic/other medications are used?	Yes	112 (61.2)
How often is ECT given per week?	1-3 times a week	99 (54.1)
How many ECTs do most patients require in one course?	Usually 1-10	84 (45.9)
Where is the current applied?	To the head	161 (88)
Who can administer ECT?	Psychiatrists/doctors	169 (92.3)
What is ECT?	Treatment using electricity	176 (96.2)
Certain investigations are needed before ECT	Yes	125 (68.8)
How long is the current applied?	Seconds	156 (85.2)
How is ECT given?	By a special machine	168 (91.8)
Informed consent		
Is written permission of the patient or his/her family member always necessary?	Yes	166 (90.7)
Does ECT can be given against the wishes of patients?	No	98 (53.6)
Does ECT can be administered against the wishes of the family?	No	159 (86.9)
Indications		
ECT is often used to	Treat acute psychiatric conditions not responding to drugs	178 (97.3)
ECT is given to only those patients who have little chance of improvement	No	76 (41.5)
ECT can also be given to older persons (>60-65 years)	Yes	93 (50.8)
ECT is given only to inpatients	No	132 (72.1)
Pregnant women can also receive ECT	Yes	65 (35.5)
Effectiveness/mechanism of action		
Is ECT useful in treating psychiatric disorders?	Yes	123 (67.2)
Compared to medications, how useful is ECT?	More or equally useful	122 (66.7)
Does ECT often worsen the psychiatric illness?	No	140 (76.5)
How does the ECT work?	By correcting brain changes causing symptoms	161 (88)
Effects of ECT last only for a short while	Yes	47 (25.7)
Does ECT result in a permanent cure?	No	141 (77)
Does scientific evidence favor the usefulness of ECT?	Yes	103 (56.3)
Side effects		
Does use of ECT lead to temporary impairment of memory?	Yes	130 (71)
Does use of ECT lead to permanent loss of memory?	No	164 (89.6)
Does ECT result in permanent damage to brain?	No	131 (71.6)
Does ECT can damage other body parts permanently?	No	139 (76)
Whether chances of death are very high during the ECT?	No	134 (73.2)
Is headache a common side effect of ECT?	Yes	92 (50.3)
Whether most of the patients receiving ECT develop epilepsy later?	No	108 (53.6)

ECT: Electroconvulsive therapy

DISCUSSION

In the Indian setting, among the members of mental health team, nurses are most likely to be available to the patients and their relatives round the clock. They can be a potential source of information to the patients and their relatives. Accordingly, their knowledge and attitude have a significant role in coloring the knowledge and attitude of patients as well as patient's relatives. Hence, understanding their knowledge and attitude can help in identifying the areas of intervention so as to ultimately improve the acceptability of treatments like ECT and overall outcome of patients. The best stage to address the faulty attitudes and deficient knowledge is during the

formative years. Accordingly, the current study examined the knowledge and attitudes of nursing students toward ECT.

Findings of this study suggest that many nursing students were deficient in their knowledge about various aspects of ECT. The major areas of deficits were knowledge about indications, effectiveness, and side effects of ECT. In terms of attitude, negative attitudes toward ECT were also highly prevalent. It is important to understand that these findings have important implications. The lack of knowledge among nurses is likely to reinforce ignorance in patients and relatives as well. The students who themselves lack this knowledge would either overwhelm

Table 2: Attitudes toward electroconvulsive therapy in the study participants (n=183)

	Positive attitude, n (%)	Negative attitude, n (%)	Ambivalent attitude, n (%)
Is ECT dangerous and should not be used?	21 (11.5)	144 (78.7)	18 (9.8)
Is ECT an inhumane treatment?	19 (10.4)	147 (80.3)	17 (9.3)
I will advise a close relative to receive ECT if recommended	130 (71)	33 (18)	20 (10.9)
If required, I will undergo ECT treatment	140 (76.5)	31 (16.9)	12 (6.6)
Is ECT often given as a punishment to violent/angry patients?	5 (2.7)	171 (93.4)	7 (3.8)
Following discovery of new medicines, is treatment with ECT never required?	27 (14.8)	125 (68.3)	31 (16.9)
If ECT fails in a patient, then no other treatment will succeed?	23 (12.6)	122 (66.7)	38 (20.8)
Is ECT at times lifesaving?	154 (84.2)	10 (5.5)	19 (10.4)
Is treatment with ECT cruel?	15 (8.2)	154 (84.2)	14 (7.7)
Is treatment with ECT outdated?	8 (4.4)	157 (85.5)	18 (9.8)
Is treatment with ECT should be outlawed?	10 (5.5)	154 (84.2)	19 (10.4)
Once a person is given ECT, in future, whenever he/she becomes ill, whether ECT is the only treatment option?	11 (6)	134 (73.2)	38 (20.8)
Does ECT get you better quicker than drugs?	63 (34)	76 (41.5)	44 (24)
ECT is given indiscriminately to people?	160 (87.4)	17 (9.3)	6 (3.3)
Is ECT the worst treatment option under any circumstances?	143 (78.1)	20 (10.9)	20 (10.9)
Is ECT often given to people who do not need it?	168 (91.8)	5 (2.7)	10 (5.4)

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patients and relatives by providing them with wrong information or would avoid interaction on such topics. Both of these events are detrimental to patient welfare. Accordingly, these findings suggest that there is a need for training and awareness program for improving the knowledge about ECT and addressing the negative attitude toward ECT among nursing students. In general, in usual course curriculum, the issues of attitude of professionals are often ignored. Hence, there is a need to improve the awareness among the trainers to evaluate the attitude of various professionals, like nurses, about various treatment modalities like ECT and to address the same effectively by openly discussing the same and clarifying the myths on the basis of scientific evidence. Evidences suggest that fear of “unexpected side effects,” fear of the procedure, and “lack of enough information” are some of the important factors which often lead to withdrawal of consent of the patients considered for ECT.^[12] Accordingly, the training modules need to address these issues to prevent such treatment withdrawals.

It is difficult to compare findings of the present study with those reported in other studies which have evaluated the knowledge of patients, relatives, and medical professionals, due to the differences in assessment instruments. When we compare the findings of the present study in terms of knowledge and attitude with previous studies from the same center, which have evaluated the knowledge and attitude of patients who have received and not received ECT and knowledge and attitude of relatives of patients who have received and not received ECT, it is evident that nursing students

have better knowledge and more positive attitude toward ECT.^[11,13] Further, when we compare the findings with those reported for patients and relatives of patients from other centers of this country, findings again suggest that nursing students have better knowledge and more positive attitude toward ECT.

Existing literature suggests that there is a positive association between knowledge and positive attitude toward ECT.^[14,15] Findings of the present study also suggest the same.

In terms of source of information, the present study highlights the impact of media (movies, television, and print media) on knowledge and attitude toward ECT. Depiction of ECT in Indian cinema, as well as in Hollywood, is exaggerated and scientifically inaccurate. ECT in Indian films is often used as punishment or to torture or coerce people, and the clinical evidence of the safety and effectiveness of ECT as a psychiatric treatment is largely overlooked. Possibly, these depictions do influence the lack of knowledge and negative attitudes toward ECT.

The present study has certain limitations. The study was limited to students from one center and does not necessarily reflect the knowledge and attitude of nursing students across the country. Although the students were recruited prior to their psychiatric rotation, it is quite possible that their knowledge and attitude would have been influenced by the lectures covering the psychiatric disorders and by interaction with the peers who would have already done the psychiatric rotation.

CONCLUSION

The present study shows that there are gaps in knowledge about ECT among nursing students. Further, it is clear that negative attitudes toward ECT are highly prevalent among nursing students. To fill such gaps, there is a need to develop more pro-ECT curriculum. The nursing students should be provided with adequate and unbiased information about the indications, mode of action, and other procedural details about ECT. Such unbiased information will help the patients to have more rational and balanced decision-making with respect to accepting ECT as a treatment modality and reducing stigma, fear, and other derogations associated with ECT.

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Conflicts of interest

There are no conflicts of interest.

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