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Effect of an Interactive Education on Electroconvulsive Therapy Perception in Nursing Students

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Abstract

Objectives: Evidence suggests poor education is associated with negative attitudes toward ECT. Our study was designed to evaluate the perceptions of nursing students towards ECT before, and after, a clinical experience during ECT. The hypothesis is that an interactive education about ECT correlates with more positive attitudes regarding ECT treatment.

Methods: Between November 2016 and March 2017, researchers surveyed 24 nursing students attending clinical at a southern California psychiatric hospital. Students completed a pre-education and post-education survey. The surveys consisted of 15 and 16 questions, respectively, regarding attitudes and sources of knowledge. The intervention consisted of one four-hour rotation of clinical experience participating in ECT.

Results: The intervention was found to be statistically significant in the areas of education for indication and personal attitudes toward recommending ECT. The study revealed a connection between increased positive responses toward ECT and a baseline education on ECT treatment. Prior to the clinical experience, 13% believed ECT caused brain damage, 67% believed ECT to be humane and safe, and 58% believed ECT was more effective than medication. In the post-survey, 96% of participants believed ECT to be appropriate for treating severe depression, suicidal ideation, bipolar depression, and bipolar mania. 79% indicated ECT for the treatment of schizophrenia. For the questions concerning common misconceptions about ECT, 100% of participants believed that ECT is a safe and humane treatment that is more effective than medication and viewed short-term confusion and short-term memory loss as the most common side effects of ECT.

Keywords*:* ECT; education; electroconvulsive therapy; nursing; nursing students; stigma; mental illness; popular media

Introduction

Background

Electroconvulsive therapy (ECT) is an effective and commonly utilized procedure for the treatment of depression and other psychotic illnesses that has been in use for more than 80 years.[1] Popular media have portrayed ECT as barbaric and incapacitating; this portrayal has created a negative public perception of the treatment.[1] However, further studies conducted on the safety and effectiveness of ECT treatment show that several of these perceptions are misleading.

Knowledge Gap

The majority of research indicates ECT to be highly effective for the treatment of depressive disorders, catatonia, and psychosis .[1] ECT has presented a remission rate of approximately 90% for depressed patients compared to an approximate remission rate of 67% for antidepressant medication.[2] Furthermore, there was also a reported estimate mortality rate of 2.1 per 100,000 cases.[3] Of the approximately 766,000 cases reviewed, just over 414,000 had been conducted after 2001 with only one ECT-related death reported.[3] Despite the efficacy and relative safety of the procedure, ECT continues to carry a negative stigma

among patients and medical professionals, who have a significant influence on the opinions of patients and families.

Significance

In a Southern California hospital behavioral health unit, many nurses and support staff were noted to have a negative or poor understanding of ECT. It was noted that of 183 nursing students surveyed, two out of three students held negative views on the use of ECT.[4] Many studies of medical students have also demonstrated significant negative perceptions of ECT. 31% of third-year medical students believed, in one study, that ECT was used as punishment, and 32% of third-year medical students believed that ECT could cause brain damage in another.[2] Within the same study, 50% believed the procedure to be dangerous.[2] Several studies have indicated many patients and nurses involved with ECT are simply not well educated on the treatment, with most of the knowledge being obtained from sources within popular culture, such as cinema.[5,6,7] The lack of education for psychiatric nursing contributes to negative beliefs about ECT, which creates difficulty in assigning nurses to ECT within a hospital setting.

Purpose

The purpose of this paper is to examine the effects of education on negative perceptions held by nursing students. In this study, nursing students were allowed to meet and interact with patients before, during, and after the procedure. Study results will help to answer the question: Will an immersive clinical experience with ECT produce a more positive perception of the treatment?

Theoretical Framework

The theoretical framework for this study is that the perceptions and attitudes of nursing students toward ECT are directly connected to knowledge about the procedure. This paper will build on research that was previously conducted. The results of the study indicated a positive and statistically significant relationship between ECT education and positive perceptions of ECT.[5] Many clinicians believe a positive attitude by the patient before receiving ECT can increase the effectiveness of therapy.[1] The results would indicate the justification for improved ECT education for nurses and other mental health providers. The focus of this paper was on nursing students preparing for a bachelor's degree in Nursing Science.

Evidence suggests that negative attitudes toward ECT are associated with stigma and a lack of proper education and understanding of the procedure. The hypothesis set forth was that an objective education about the procedure would be correlated with more positive attitudes. The study was designed to evaluate the perceptions of nursing students before, and after, an immersed clinical experience during the ECT procedure.

Materials and Methods

This study was designed to assess nursing student attitudes towards ECT based on education and personal experience. The researchers in this study were the hospital staff. This study was a quality improvement project for the Behavioral Health Unit to assess the quality of education received by nursing students and was not required to be submitted to the hospital's internal review board.

Participants

Between November 2016 and March 2017, researchers surveyed 24 nursing students attending clinical study at a southern California psychiatric hospital that had agreed to participate in the research. Students were asked to participate by taking the survey before and after their clinical experience at the hospital. Ethical concerns were addressed by ensuring that all patients had given consent for the students to be present during the procedure. Confidentiality was ensured and participation was voluntary and anonymous.

The patients were a combination of inpatient and outpatient persons receiving ECT for a variety of psychiatric conditions. Each patient was asked to give consent before student involvement with their care. This is in alignment with the student's role in clinical nursing education.

Setting

This study was conducted in the psychiatric unit of a southern California hospital. The students were assigned to the hospital independent of the hospital or the study. The ECT setting consisted of three

treatment beds, a psychiatrist, an anesthesiologist, an ECT coordinating nurse, two recovery nurses, a nursing assistant, and two or three nursing students.

Intervention Procedures

The 24 students completed a pre-education survey on the first day of their clinical rotation and a post-education survey on the last day of their clinical rotation. The surveys consisted of 15 and 16 questions respectively regarding attitudes and sources of knowledge. The intervention consisted of at least one rotation of four hours of clinical experience observing and participating in the ECT procedure. The students attended the clinical for eight hours, two or three days weekly for eight weeks. The education was not a formal algorithm. It was an educational experience that was an on-the-job type of experience in which the students were present and assisted with the ECT procedure. Students observed medication preparation, patient preparation, the procedure, and the recovery period. Students were educated about the indications, benefits, and risks of ECT by the psychiatrist and ECT nurses. The students were also clinically involved with patients on the psychiatric unit pre-treatment and post-treatment.

Instrument and Data Collection

The survey was designed by hospital management as a quality improvement project. Validity was measured with a Cronbach's alpha of 0.73. It was given to the clinical instructor for the nursing school and administered by the nursing school instructor. The statements on the questionnaires were scored 1, 2, or 3 with 1 indicating agreement, 2 indicating uncertainty, and 3 indicating disagreement with the statement. The questions were designed to assess the participant's education level, understanding, and attitude toward ECT. One question focused on the source of the knowledge, four questions focused on education and experience, and 10 questions focused on the attitudes held concerning the use of ECT. A 16th question on the post-survey was added to allow the students to express the most influential experience in their own words. The questions also evaluated the student's specific knowledge of the indications for the use of ECT and the appropriateness of the indication.

Results

The intervention was shown not to be statistically relevant to the overall score in the study. However, the intervention was found to be statistically significant in the areas of education for indication and personal attitudes toward recommending ECT. The study revealed a connection between positive responses and the baseline education of the students. In the pre-survey, 88% (n= 21) identified as students only, and 13% (n=3) identified as students who are also employees of the hospital. One explanation for the generally positive view of ECT in the pre-survey is an advanced baseline education level. A total of 63% (n=15) of the participants had an associate's degree or higher and 63% (n=15) indicated having healthcare experience. 83% (n-20) indicated having no experience in mental health. For the questions that addressed common misconceptions about ECT only 13% (n=3) believed ECT caused brain damage, 67% (n=16) believed ECT to be humane and safe, and 58% (n=14) believed ECT can be more effective than medication. Of the 24 participants, 38% (n=9) believed ECT to be a treatment that had been used in the past to control agitated patients, and one participant was uncertain. In the question about prior knowledge, some participants marked more than one area of exposure, television/movies, or fictional books represented 63% (n=15) of the responses. 67% (n=16) believed that their attitude toward ECT affected patient perceptions about ECT. Figure 1 shows a full report of the pre-survey responses.

In the post-survey, 96% (n=23) of participants stated that they believed ECT to be appropriate for treating severe depression, suicidal ideation, bipolar depression, and bipolar mania. 79% (n=19) indicated ECT for the treatment of schizophrenia. For the questions on common misconceptions of ECT, 100% (n=24) of participants indicated that they believed ECT could be more effective than medication, is a safe and human treatment, and that short-term confusion and short-term memory loss are the most common side effects of ECT. That is an increase from 58% (n=14), 67% (n=16), and 79% (n=19) respectively. The results were analyzed using a Chi-squared test to assess baseline knowledge source and baseline education. A two-tailed T-test was utilized to analyze the effect of the intervention on the overall positive responses and positive responses to each question. Figure 2 shows a full report of the post-survey responses.

In the pre-survey questionnaire, the minimum possible score = 10 and the maximum possible score = 30 with the lower number indicating a more positive view of ECT. The pre-survey mean score = 17.7 and the post-survey mean score = 11.25. Based on a two-tailed T-test, with a P> 0.05 (n=9.33) the intervention did not have a statistically significant effect on the overall score in this population. The graphs in figures 3 and 4 represent positive responses to survey questions in the pre and post-survey responses respectively.

Pre-Survey Positive Responses

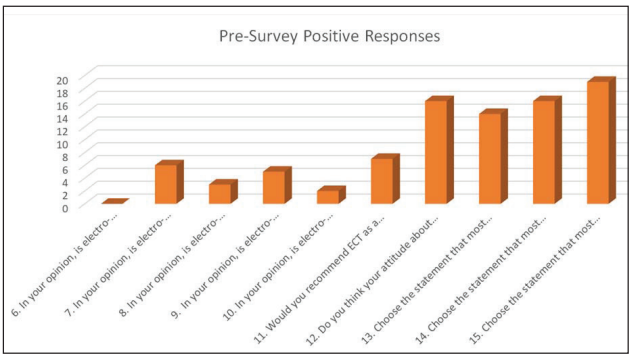

Figure 1. This graph shows the positive responses to the pre-survey.

Post-Survey Positive Responses

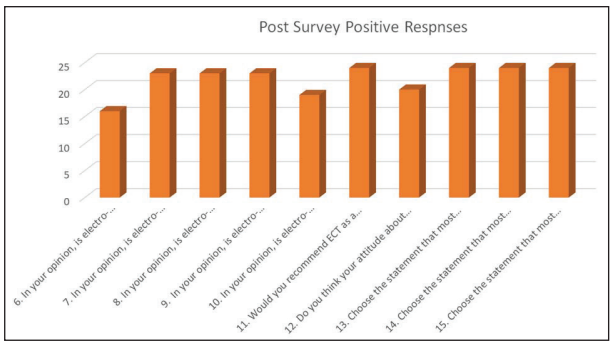

Figure 2. This graph shows the positive responses to the post-survey.

In the analysis of questions 6-12 regarding indications for and attitudes toward ECT, the two-tailed T-test produced P< 0.05 (n=0.00023) which indicated a statistically significant improvement following the intervention. The mean pre-survey was 5.6 positive responses, and the mean post-survey was 21.1 positive responses. Based on this analysis the intervention was significant in the education for indications for ECT and personal attitudes regarding ECT. Pre- and post-survey positive responses for questions 6-12 can be seen in Figures 5 and 6 respectively.

Pre-Survey Positive Responses to Questions 6-12

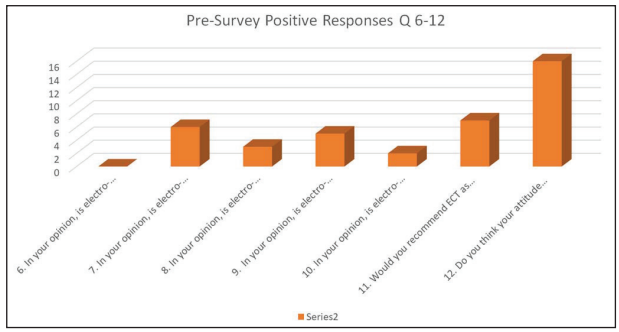

Figure 3. This graph shows the positive responses to questions 6-12 on the pre-survey

Post Survey Positive Responses to Questions 6-12

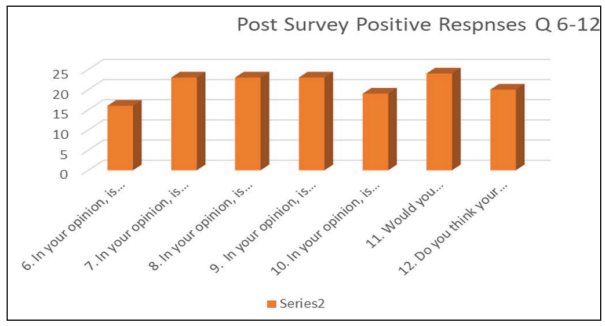

Figure 4. This graph shows the positive responses to questions 6-12 on the post-survey.

Chi-squared analysis of baseline education indicated that education level was a significant factor for a positive response to ECT P<0.05 (n= 0.026). Further analysis using Chi-squared, P>0.05 (n=1.98), indicated, for this group, that baseline knowledge source was not a significant factor for a positive or negative response to ECT.

Discussion

The results shown could be attributed to increased awareness and acceptance of ECT. The study revealed less of a negative view of ECT and more of a lack of understanding of the intricacies and indications for the procedure. For the pre-survey, 71.3% (n=114) of responses to questions about indications were marked uncertain compared to only 5% (n=9) in the post-survey.

Conclusion

Participants in this study did not harbor as many negative perceptions about ECT as studies before had

indicated. Many participants did indicate that their primary source of information about ECT was derived from popular culture which aligned with results from previous studies. Despite the source of information about ECT participants expressed a far greater feeling of uncertainty than they did of negative perceptions about ECT. The analysis of this study indicated that the source of information was not as influential as the pre-education level of the new nursing students.

Implications

Nursing education plays an important role for nurse practitioners. As an educator, nurse practitioners are responsible for providing the most current and accurate information available. Nurses are essential in the ECT environment. They spend a lot of time with the patient before and after treating the patient. It is their responsibility to educate patients and new nurses about the indications for ECT and possible side effects. Nurses must ensure that patients and their families receive the most current and accurate information when making care decisions. Nursing schools should strive to educate nurses thoroughly about ECT so that new nurses have a good understanding of the procedure. Nurse practitioners should review the latest information on ECT and pass this information on to the patient. As nurses increasingly participate in the training and use of ECT, evidence-based nursing research must continue to evaluate the most effective interventions. This study and other similar studies can be used to ensure that objective information is disseminated and that patients receive the best possible care and make informed decisions.

Recommendations

Further research should be conducted to assess the influence that increased education level has on the perceptions of psychiatric patients and treatments. One question that could be addressed would be the following: "Is the perception of ECT changing in popular media and has that affected the perceptions of new student nurses?" Another possible question would be to investigate the effect of previous higher education and work experience on perceptions of ECT. These themes of education and perceptions can be applied to all areas of mental health as awareness continues to grow throughout the United States.

Cost Effects

This study and the results would not affect the cost of providing care or conducting research. The students were attending class at the hospital independent of the study and no increased cost was incurred. Staff provided the education in the performance of the daily duties as they do for all nursing students attending clinical education at the hospital. It is reasonable to hypothesize that, a more comprehensive understanding of ECT by providers and caregivers would translate to an increase in patients willing to participate in treatment and may reduce unnecessary medication changes. Further research would be required to address this aspect of cost-effectiveness.

Ethical Clearance

The students signed consent forms, and the surveys were cleared by the hospital.

Source of Funding - Self

Conflict of Interest - Nil

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