

Impact on Psychiatric Interns of Watching Live Electroconvulsive Treatment

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Objective: Watching a live electroconvulsive treatment (ECT) has both positive and negative effects on spectators. The authors aim to survey the attitude change towards ECT in interns after watching a live ECT session.

Methods: A 23-item questionnaire was administered to 66 interns before and after watching ECT.

Results: In five statements, the number of answers indicating negative attitudes decreased significantly after viewing ECT. A general change in attitude towards ECT depended on the interns' knowledge about the treatment. In the group of interns claiming minimal knowledge about ECT, a positive attitude change toward ECT and an increase in the acceptance of ECT were found, while in the group with moderate self-rated knowledge no significant attitude change, but a decrease in acceptance, were detected.

Conclusion: The visual information on ECT reduced the interns' negative attitudes, in general; however, acceptance of the treatment decreased in a subgroup of interns.

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The use of electroconvulsive treatment (ECT) in Hungary has been significantly reduced over the past decade (1). Attitude studies of both medical students (2) and psychiatrists (3) in Hungary showed frequent, groundless beliefs regarding the method.

Earlier studies suggested that viewing the treatment itself plays an important role in forming attitudes toward ECT. A negative impact on attitudes generated by viewing clips from movies portraying ECT as a brutal and inhumane method has been proven (4). A positive impact on knowledge and attitudes of educational videos (5, 6) and live ECT demonstrations integrated into the medical curriculum (7) has also been demonstrated. A study that compared the effect of educational videos and live ECT demonstration (8) indicated a minimally higher level of knowledge after seeing live ECT. Educational pamphlets and an educational video were equally effective in influencing knowledge and attitudes toward ECT in nonmedical university students (5). These results suggest that visual information (i.e., viewing a live treatment) could play a role in increasing knowledge of, and changing attitudes toward, ECT.

The aim of this study was to survey the attitude change in interns (students in their sixth year of medical school in Hungary) after they watched a live ECT session for the first time.

Methods

Rating Instrument

A 23-item self-rating questionnaire was compiled by modifying the questionnaire used in a previous study (2). Participants were asked to complete this instrument before watching a live ECT session. In addition to gender and age, knowledge of ECT and its sources were also registered. The next 14 items targeted the most frequent misconceptions about ECT. Participants had to indicate their

level of agreement on a four-point Likert scale (ranging from 1 = absolutely disagree to 4 = absolutely agree) with the statements. The more a subject agreed with the "myths" about ECT, the higher the scores. The final item asked to what extent participants would agree to undergo ECT themselves for severe psychotic depression. The post-ECT questionnaire contained the last 15 items of the pre-ECT questionnaire.

Subjects and Design

The study was conducted between July 2004 and April 2006 at the Department of Psychiatry and Psychotherapy, Semmelweis University, in Budapest, Hungary. In their sixth year, all interns must spend 3 weeks of clinical practice in the psychiatry department, which requires, among other duties, being on-call once under supervision.

The participants in this study were interns who attended an ECT session (on a Tuesday or Friday) following their on-call duty. Altogether 82 interns were asked to participate, of whom 13 refused and three left before the end of the treatment, and could not complete both questionnaires. This left 66 participating interns (80%) who completed both questionnaires.

ECT Procedure

Modified ECT was performed according to the guidelines of the Royal College of Psychiatrists (U.K.) (9). Bifrontotemporal electrode placement was used with a Thyatron DGx machine (Somatics, Lake Bluff, Ill.), providing a bidirectional 1 msec square impulse by constant (0.9 A) current.

Statistical Analysis

The data were analyzed using SPSS Version 10.0. Responses to attitude items were rated from 1 to 4, with 1 indicating the most positive attitude (strongly disagreeing with the myths of ECT) and 4 the most negative attitude; the last item asked whether the participants would agree to undergo ECT themselves for severe psychotic depression. This last item was rated in an opposite way. The sum of the answers to the 14 attitude items before and after watching ECT was also counted. Pre-ECT and post-ECT answers—the ordinal data—were compared item-wise using a marginal homogeneity test. Descriptive data were presented as means and standard deviations (SD). The participants were divided according to professed knowledge of ECT in the following groups: "nil," "minimal," "moderate," and "excellent" knowledge. Data were analyzed according to these groups, and also according to groups formed on the basis of sources of information on

ECT. As the values in some cells were less than 5, binomial data of the answers regarding the sources of knowledge on ECT were compared between groups with Fisher's exact test. Within-group attitude change was examined using paired *t* test. The pre- and posttreatment scores of attitude changes were compared between groups with different levels of ECT knowledge with the Mann-Whitney test, as the data were not normally distributed.

Results

The 66 respondents had a mean age of 23.2 ± 1.5 years; 45 were women (68%), which was in line with the male:female ratio of medical students at Semmelweis University over the past 5 years. Three interns (5%) assessed their own level of knowledge as nil, 37 indicated minimal knowledge (56%), 21 as moderate (32%), and one rated it high (2%). Four participants did not answer this question (6%). Sources of ECT knowledge were indicated as follows: experience of an ECT-treated friend or relative (6%, $n = 4$), movies (56%, $n = 37$), literature (23%, $n = 15$), medical studies (88%, $n = 58$) and pamphlets about ECT (11%, $n = 7$). These pamphlets are published and distributed by the Citizens Commission on Human Rights, an antipsychiatry organization. A comparison of answers to the 14 items on pre-ECT and post-ECT attitudes are summarized in Table 1.

The number of participants who considered ECT as a potential treatment for themselves for severe psychotic depression did not change significantly after viewing the treatment ($p = 0.597$).

Only the minimal ($n = 37$) and moderate ($n = 21$) knowledge groups were suitable for statistical analysis. In the sum of the pre-ECT answers there was no significant difference between these two groups. Gender difference was also not significant ($p = 0.385$). Analysis of the answers to the five items concerning the sources of ECT knowledge also showed no significant difference between the two groups. After viewing the treatment, significant differences appeared; those in the minimal group showed significantly better attitudes (difference: -1.7 ± 2.259 , $p < 0.001$) after watching ECT, while those in the moderate group did not change (difference: -0.19 ± 2.482 , $p = 0.729$). Direct comparison of the attitude change between the two groups was also significant ($p = 0.022$) in favor of the minimal knowledge group. Answers of the minimal knowledge group changed significantly after viewing the treatment (see Table 2). Questions are shown in Table 1.

In the moderate group, only the answer to the question

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about ECT as a treatment for the participants themselves changed significantly after viewing the treatment (Table 3).

Three information sources on ECT (movies, literature, and pamphlets) were mentioned by a sufficiently high number of participants for statistical analysis (Table 4).

Discussion

Analyzing the answers of the whole study sample, significant changes appeared in the post-ECT answers to five

of the 14 items (questions 1, 2, 4, 6, 12). In all five items there was a significant decrease in the mean numbers, indicating disagreement with the negative statements. Hence, the single piece of visual information could have a significant effect. In some negative statements (questions 3 and 5) no change was demonstrated, because nearly all respondents had already disagreed with the statements before the treatment. It is a cause for concern that the interns had a high rate of agreement with some negative statements (questions 7 and 14) both pre- and post-ECT.

Similar to the results of Clothier et al. (10), we have

TABLE 1. Comparison of Participants' Pre-ECT and Post-ECT Answers Concerning Their Attitude toward ECT

Statements on ECT	Pre-ECT Answers					Post-ECT Answers					Marginal homogeneity test
	1	2	3	4	Mean score	1	2	3	4	Mean score	
1. Often misused	36	27	3	0	1.50	44	22	0	0	1.33	p=0.012*
2. Used to control violent patients	34	17	11	2	1.70	43	12	9	1	1.52	p=0.007*
3. Used to punish uncooperative patients	63	3	0	0	1.05	64	2	0	0	1.03	p=0.564
4. Painful	32	25	6	2	1.66	41	23	1	0	1.38	p=0.002*
5. Can be performed without anesthesia in Hungary	61	4	1	0	1.09	62	2	2	0	1.12	p=0.670
6. Dangerous, and may be fatal	15	36	9	5	2.06	18	40	4	4	1.92	p=0.039*
7. Should only be used as a final resort	16	25	17	7	2.23	18	21	19	7	2.23	p=0.674
8. Outmoded	30	27	9	0	1.68	33	25	7	0	1.60	p=0.317
9. Causes permanent brain damage	32	30	3	1	1.60	30	31	3	1	1.62	p=0.819
10. Violates patients' rights	51	10	2	0	1.23	51	14	0	0	1.21	p=0.513
11. Used more often in Hungary than in the U.S.	19	34	10	1	1.89	25	30	6	3	1.79	p=0.095
12. Must not be used over age 65	13	34	11	3	2.08	24	28	10	2	1.87	p=0.008*
13. Can be performed against the patient's will	30	18	12	5	1.88	28	14	13	10	2.08	p=0.144
14. Viewing it is frightening	12	25	22	6	2.34	19	25	17	5	2.14	p=0.107

1 = absolutely disagree; 4 = absolutely agree. Significant differences are indicated with asterisks.

TABLE 2. Significant Changes in Pre-ECT and Post-ECT Answers in the Group with Minimal Self-Rated ECT Knowledge

Statements on ECT	Pre-ECT answers					Post-ECT answers					Marginal homogeneity test
	1	2	3	4	Mean	1	2	3	4	Mean	
1. Is often misused	19	18	0	0	1.49	27	10	0	0	1.27	p=0.005
2. Is used to control violent patients	21	8	6	0	1.57	28	5	3	0	1.31	p=0.013
4. Is painful	19	12	4	2	1.70	26	11	0	0	1.30	p=0.007

The numbers indicate row data and the mean of the coded scores.

TABLE 3. Significant Changes in Pre-ECT and Post-ECT Answers in the Group with Moderate Self-Rated ECT Knowledge

Statements on ECT	Pre-ECT answers					Post-ECT answers					Marginal homogeneity test
	1	2	3	4	Mean	1	2	3	4	mean	
Would consent to receive ECT in case of severe depression	2	4	8	7	2.95	2	7	6	6	2.76	p=0.046

The numbers indicate row data and the mean of the coded scores.

TABLE 4. Comparison of the Pre- and Post-ECT Attitude Changes With Respect To the Sources of ECT Information

Source of ECT Information	Pre-ECT		Comparison (Mann-Whitney test)	Post-ECT		Comparison (Mann-Whitney test)	Attitude change	Comparison (Mann-Whitney test)
	Yes	No		Yes	No			
Movies	28.27 ± 3.80	25.95 ± 4.02	p = 0.033*	26.59 ± 3.48	25.10 ± 4.18	p = 0.149	1.68 ± 3.49	p = 0.352
Literature	28.73 ± 4.10	26.37 ± 3.60	p = 0.047*	27.00 ± 3.70	25.60 ± 4.06	p = 0.257	1.73 ± 2.58	p = 0.234
Pamphlets	27.14 ± 2.80	27.27 ± 3.99	p = 0.935	28.00 ± 3.42	25.91 ± 3.99	p = 0.196	-0.86 ± 1.86	p = 0.032*

The numbers indicate the sum of the coded attitude answers ± SD. Significant differences are indicated with asterisks.

already showed (2) that self-rating of ECT knowledge is more indicative of participants' negative attitudes and misconceptions than the level of their factual knowledge. In this study, the minimal knowledge subgroup showed a significant decrease in agreeing with the three negative statements after viewing ECT, while agreement in considering ECT as a treatment for themselves increased only minimally. In contrast, in the moderate knowledge subgroup a nonsignificant increase was detected in the rate of agreement in five negative statements (questions 3, 7, 9, 10, 14), while agreement in considering ECT as a treatment for themselves significantly decreased. It seems that in this subgroup the visual information on ECT actually reinforced preexisting misconceptions and thus further reduced the acceptance of ECT. However, it is notable that the posttreatment agreement rate of interns in the moderate knowledge group accepting ECT was higher than in the minimal knowledge group.

The source of the information on ECT also had a significant impact on the ECT-related attitude in this study. Interns who obtained information from movies and literature showed more negative attitudes pre-ECT than those who did not get information from these sources, but this significant difference disappeared after viewing a live ECT. For interns who were informed by antipsychiatry pamphlets, the situation was the opposite. Their pre-ECT attitudes were similar to those who did not read the pamphlets, but after viewing the treatment, they became more negative and the attitude change showed significant difference between the groups.

Conclusion

Our study provided evidence that watching a single live ECT reduced psychiatric interns' negative attitudes in general, but they remained reluctant to hypothetically accept ECT for themselves in the case of severe depression. In agreement with our earlier results (2), witnessing ECT did

not improve attitudes in those with previous misinformation, particularly from antipsychiatry pamphlets. This is because many misconceptions can neither be confirmed nor refuted by watching a single session of ECT.

These results have practical implications for education on ECT. Besides watching a live ECT session, it is important to present the most up-to-date scientific results. It is recommended to tackle the issues that can lead to the worsening of attitudes after viewing ECT. In this study, such items included questions 3, 7, 9, and 10. For some interns or students, viewing the treatment could be a frightening experience that contributes to a negative attitude change. Besides viewing a live ECT session, it is equally important to demonstrate the therapeutic effect of ECT with case or video presentations. The most effective way of changing attitudes toward ECT would be to ensure that interns could closely follow the condition of ECT-treated patients until remission.

Limitations of the Study

As both viewing an ECT session and participation in the study were voluntary, selection bias cannot be ruled out. Three interns left before the completion of the second rating instrument. A further limitation could be the very short interval (1–2 hours) between completing the two ratings; however, there are no data in the literature concerning the optimal gap between completing the two measurements. Finally, participants were informed about the main aim of the study, and this could have biased some of their answers.

At the time of submission, the authors disclosed no competing interests.

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Mental Healing

Not all wounds are on the outside, or just beneath the surface.

Occupying a space, clotting, pustulent, red, angry.

Easily visualized, palpable, resectable.

Sometimes wounds lie deeper;

difficult to convey, without a physical form, yet ripening;

silent, crippling without warning, lethal.

For these wounds, attentive listening, unconditional regard, and reassurance are bandages.

Understanding is hope.

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