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Electroconvulsive therapy: medical students' attitudes and knowledge

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Aims and method With increasing numbers of students and falling numbers of individuals receiving electroconvulsive therapy (ECT) it has been difficult to timetable all students to witness ECT, and it has been suggested that this experience may be dispensed with. However, we wondered how the experience of witnessing ECT might enhance students' knowledge and, just as importantly, challenge negative perceptions of ECT. We surveyed students' attitudes and knowledge at the beginning and the end of their 8-week attachment in psychiatry.

Results There appears to be a clear benefit in terms of knowledge and positive attitudinal change for students who both witness ECT and receive a lecture on the subject.

Clinical implications Direct observation of ECT can challenge and affect attitudes in ways a lecture may not. Any changes to the provision of ECT teaching for medical students, including replacing witnessing ECT, needs to be carefully developed and assessed.

Declaration of interest None.

Electroconvulsive therapy (ECT) remains a source of controversy to the public and even among some in the medical profession. There have been studies of patients'

attitudes to ECT,^{1,2} and several studies looking at medical students attitudes to ECT.^{3–5} It was felt important to ascertain medical students' attitudes and knowledge about

ECT, in Leicester, before and after their psychiatric attachment. This information will be used to help educators to improve the learning experience for the students. With larger medical student group sizes and falling ECT rates, it has been difficult to enable all medical students to witness an ECT treatment. Watching a video about ECT has been suggested as an alternative. However, a previous study has shown that witnessing a video does not alter students' attitudes towards ECT.³ This study has been developed to examine whether a lecture or direct observation of ECT has the greater impact on students' knowledge and attitudes, and if there is any particular order of these experiences that has the most benefit. The majority of these medical students will form the doctors of the future, and their own attitudes about ECT may impact on the difficult decisions individuals have to make when unwell.

Method

This study examined medical students' attitudes and knowledge of ECT during their introductory week in psychiatry, and compares these after having witnessed ECT being given and after a lecture. During their 8-week psychiatry attachment, students are specifically given a time slot in the ECT suite where they witness ECT being delivered. Students also receive a lecture from the lead consultant for ECT. The medical students from Leicester Medical School can be from either the third or fourth year of the curriculum. They include mature students, who may have a previous background in healthcare. Students were asked to complete a questionnaire in the first week of their psychiatry attachment, then again having had a lecture in ECT, and again having witnessed ECT. Some students will have attended the lecture prior to witnessing ECT, and vice versa.

The student responses were analysed using the following groupings:

- Group I is the initial group who were given questionnaires on their first day of their psychiatry attachment (120 students).
- Group A had received their lecture but not yet witnessed ECT (39 students).
- Group B had witnessed ECT then received the lecture (63 students).
- Group C had received the lecture and then witnessed ECT (54 students).
- Group D had watched ECT but not yet received the lecture (55 students).

All medical students who rotate through an attachment in Leicestershire Partnership NHS Trust were included in the sample. The knowledge questions required yes/no responses. The attitudinal questions were answered using a likert scale ranging from 'strongly agree' to 'strongly disagree'. The results of the attitudinal questions were analysed using the chi-squared test, (d.f.=1, $P=0.05$, $\chi^2=3.84$). The attitudinal question responses were analysed with 'strongly agree' and 'agree' combined and compared with 'strongly disagree' and 'disagree' combined.

Results

A total of 120 medical students took part in the survey, 53 male, 66 female; 1 student did not complete the questionnaire. The mean age was 23.0 years, and 24 students were on the 4-year accelerated programme.

A series of knowledge questions preceded questions relating to attitudes about ECT. The results of these knowledge questions can be seen in Tables 1–3. Table 1 shows the medical students' views on the indications for ECT at differing points in their training. There is a clear improvement in scores from baseline (Group I) with all interventions. However, Group B appears to score better overall. This overall improvement in scores for Group B is also seen in Tables 2 and 3, suggesting that by first witnessing ECT and then receiving a lecture there is a marginal benefit to students' knowledge at the time of testing.

Of interest, 6.7% of Group I felt ECT was used for the treatment of violent or uncooperative individuals and only 30% believed the person received a general anaesthetic. Group I responses suggested that individuals had high rates of side-effects and 22.5% of students believed people were awake during the treatment. One student commented that 'I can't see the benefit of electrically shocking someone's brain – is it based on BF Skinners model of behaviour?' And another felt that ECT was 'a blunt tool from a bygone era.'

We did ask students at the start of their attachment (Group I) to comment on where some of their attitudes about ECT had come from. Of the 120 students, 14 mentioned the film *One Flew over the Cuckoo's Nest* and 11 mentioned the film *Beautiful Mind*, both of which were associated with unfavourable views of ECT.

A series of 13 attitudinal statements were also put to the students at the various stages of their training in ECT (Appendix). We began by comparing Group A (those who had only had the lecture) with Group D (those who had only

Table 1 Students responses to 'ECT is indicated for treatment of'

	n (%)				
	Initial group	Group A	Group B	Group C	Group D
Severe, life-threatening depression	80 (66.7)	39 (100)	63 (100)	54 (100)	53 (96.4)
Catatonic schizophrenia	42 (35)	38 (98)	61 (96.8)	44 (81.5)	36 (65.5)
Violent and uncooperative patients	8 (6.7)	0	2 (3.2)	3 (5.5)	1 (1.8)
Obsessive-compulsive disorder	6 (5)	0	0	1 (1.9)	3 (5.5)
Mania	54 (45)	30 (77)	51 (81)	30 (55.6)	36 (65.5)
Punishment for violent patients	0	0	0	0	0

Table 2 Students responses to 'Knowledge of the procedure for ECT involves'

	n (%)				
	Initial group	Group A	Group B	Group C	Group D
General anaesthetic	36 (30)	39 (100)	63 (100)	54 (100)	53 (96.4)
Muscle relaxant	68 (56.7)	39 (100)	63 (100)	54 (100)	52 (94.5)
Electrical current passed through the brain	103 (86)	39 (100)	63 (100)	54 (100)	55 (100)
Patient having a fit	42 (35)	39 (100)	63 (100)	53 (98.1)	54 (98.2)
Patient having to be awake	27 (22.5)	0	0	0	0
Being strapped to the table	33 (27.5)	3 (7.7)	0	1 (1.9)	0
6-12 treatments	31 (25.8)	37 (94.9)	62 (98.4)	52 (96.3)	51 (92.7)
Daily treatments	3 (2.5)	0	0	0	0
Twice weekly treatments	20 (16.7)	36 (92.3)	57 (90.5)	46 (85.2)	42 (76.4)
Fits of 5 min	18 (15)	3 (7.7)	1 (1.6)	6 (11.1)	1 (1.8)

Table 3 Students responses to 'Knowledge of the side-effects of ECT include'

	n (%)				
	Initial group	Group A	Group B	Group C	Group D
Memory loss	42 (35)	39 (100)	62 (98.4)	52 (96.3)	48 (88.9)
Burns	10 (8.3)	0	3 (4.8)	3 (5.6)	3 (5.5)
Brain damage	10 (8.3)	1 (2.6)	2 (3.2)	0	2 (3.6)
Personality changes	32 (26.7)	4 (10.3)	3 (4.8)	7 (13)	5 (9.1)
Transient ischaemic attack/cerebrovascular accident	6 (5)	8 (20.5)	13 (20.6)	4 (7.4)	8 (14.5)

witnessed ECT). Only statement 10, 'I would agree to have ECT if I were depressed,' had a significant chi-squared value ($\chi^2 = 4.29$, d.f. = 1). This suggests that watching ECT has a statistically significant benefit over receiving a lecture on only one attitudinal question.

Next we compared Group D (those students who had only witnessed ECT) with Group B (those students who had seen ECT and then received a lecture). Statement 5 ($\chi^2 = 4.15$, d.f. = 1) and statement 10 ($\chi^2 = 4.14$, d.f. = 1) both showed statistical significance, favouring Group B. This suggests that there is a cumulative benefit to be had from the two educational interventions. Witnessing ECT and receiving a lecture seems to be of more benefit in shaping positive attitudes than just witnessing ECT alone.

We then compared Group B with Group C using chi-squared. Both of these groups had witnessed ECT and received a lecture on the subject. However, Group B had witnessed ECT then had their lecture and Group C had their lecture then witnessed ECT. Statements 5 and 6, 'ECT can get patients better more quickly than antidepressants' ($\chi^2 = 4.15$, d.f. = 1) and 'ECT should only be used in serious and life-threatening situations' ($\chi^2 = 4.81$, d.f. = 1), had statistically significant chi-squared values. However, statement 5 favoured Group C, and statement 6 favoured Group B.

We also asked students in the initial group to comment on how they would feel watching ECT being delivered: 17 (14.2%) said they would feel helpless, 53 (44.2%) said they would feel anxious and 13 (10.8%) said they would feel guilty. This can be compared with Group A who had

witnessed ECT, where 3 (5.6%) students still felt helpless, 14 (25.9%) felt anxious and 1 student (1.9%) felt guilty.

Discussion

This study suggests that there is a clear benefit in terms of knowledge and attitudinal shift for students who both watch ECT and receive a lecture over students who only receive a single educational intervention. There is also a limited benefit in watching ECT before receiving the lecture, in the responses to the knowledge questions, but not in responses to the attitudinal statements. Of interest, when comparing the students who had only witnessed ECT with the students who had only had the lecture, the only statistically significant change was in the statement 'I would have ECT if I were depressed,' favouring the group who had seen ECT. Despite the concerns of the students before any educational intervention that ECT was given without anaesthesia, had high rates of side-effects, and was from a 'bygone era', after witnessing a treatment, the students appear more likely to accept the treatment if they were themselves depressed. It appears that witnessing an ECT treatment does challenge negative perceptions, based on ignorance, in a way that a lecture is not able to.

One of the reasons for this study was the difficulty we faced locally in timetabling large numbers of students to watch ECT. One suggestion has been that a video could be substituted for watching ECT. The educational effect of a video would depend on its content and presentation. We

have not compared a purpose made video v. watching ECT but rely on the quality of the video used in a previous study,³ which was designed to teach junior doctors in the technique of ECT administration, for extrapolation. That study showed no advantage to adding a lecture and video to the usual psychiatric clerkship (69% of Benbow's students had watched ECT as part of their clerkship). Another study was more positive about the use of video in nurses' education on ECT.⁶ Given the benefits that watching ECT has shown in this study, any changes to the way ECT is taught would need to be carefully evaluated.

One of the weaknesses of this study is that it considers students' experiences of ECT as being circumscribed within watching ECT and receiving a lecture. We have not considered that students may be exposed to ECT in other ways prior to and during their psychiatric attachment. Prior to the psychiatric attachment, students report that their experiences of ECT are formed from the media. Students who we surveyed still mention the film *One Flew over the Cuckoo's Nest*, which was released in 1975. The students reported that there are no positive depictions of ECT in films. Students who did have positive or favourable views of ECT prior to the psychiatric attachment had this experience either from family members, or from previous teaching.

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Appendix

Thirteen attitudinal statements

- 1 ECT is barbaric.
- 2 ECT is outmoded and should never be used.

- 3 There is no evidence that ECT is effective.
- 4 ECT can be life saving for some patients.
- 5 ECT can get patients better more quickly than antidepressants.
- 6 ECT should only be used in serious or life-threatening situations.
- 7 Patients feel coerced into having ECT.
- 8 Some patients agree to have ECT.
- 9 ECT should only be given under the Mental Health Act.
- 10 I would agree to have ECT if I were depressed.
- 11 I would recommend ECT to my patients.
- 12 I would feel comfortable watching ECT being administered.
- 13 I would feel comfortable administering ECT (if I had received the correct training).

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