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The impact of the National Institute of Clinical Excellence guidance on the use of electroconvulsive therapy in England

Electroconvulsive therapy (ECT) has been reported to have efficacy in the treatment of depressive illness, mania and catatonia (U.K. ECT Review Group, 2003; National Institute for Clinical Excellence, 2003; Scott, 2004). The Royal College of Psychiatrists in the U.K. continues to support the use of ECT within the framework of its guidance on the use of ECT (Scott, 2004) and has developed an ECT accreditation service for clincal services that use ECT. In May 2003, the National Institute of Clinical Excellence (NICE) issued a technical appraisal on the use of ECT in England (NICE, 2003). This is essentially guidance on the use of ECT which clinicians are required to follow in their clinical practice.

The NICE guidance stipulated that ECT should be used only in the following circumstances: (i) to achieve rapid and short-term improvement of severe symptoms after an adequate trial of other treatment options has proven ineffective and/or when the condition is considered to be potentially life-threatening; and (ii) in individuals with severe depressive illness, catatonia, or a prolonged or severe manic episode. The decision as to whether ECT is clinically indicated should also be based on a documented assessment of the risks and potential benefits to the individual, including the risks associated with anesthesia, current co-morbidities, anticipated adverse events including cognitive impairment and the risks of not having ECT. It further stated that the risks associated with ECT may be enhanced during pregnancy, in older people, and in children and young people, and therefore clinicians should exercise particular caution when considering ECT in these groups.

The NICE guidance was considered very stringent by many psychiatrists. The Consensus Group on ECT at the Royal College of Psychiatrists issued a statement on the circumstances when clinicans may need to diverge from NICE guidance (Scott, 2004). Because of this, it has been helpful to examine the impact of the NICE guidance on the actual use of ECT in clinical practice in England.

Data on the total number of ECTs administered (as opposed to the total number of courses of ECT) to patients of all age groups combined and patients in the age-bands 0–14 years, 15–59 years, 60–74 years and 75+ years, the mean age and the gender of patients receiving ECT, and the number of ECTs given as day cases (rather than during an inpatient admission) in England was ascertained from nationally collected data (Hospital Episode Statistics available at: www.hesonline.nhs.uk/Ease/servlet/ContentServer?siteID=1937&categoryID=210).

These national data are gathered centrally via the patient administration systems in nearly 400 hospitals in England. Data were obtained for the eight financial years (1 April to 31 March) between 1999/2000 and 2006/2007; data were not available for other years prior to 1999/2000 and subsequent to 2006/2007.

The NICE guidance on ECT was issued in May 2003. However, in this study it has been assumed that its application in clinical practice may not have fully commenced for another year. The impact of the NICE guidance on the total number of ECTs administered to patients of all ages combined and patients in the age-bands 0–14 years, 15–59 years, 6–74 years and 75+ years ECT, the number of ECTs administered as day cases, and the mean age and the gender of patients receiving ECT was examined by comparing the five years between 1999/2000 and 2003/2004 (i.e. before the NICE guidance) with the three years between 2004/2005 and 2006/2007 (i.e. after the NICE guidance) using the Mann-Whitney U-Test.

Table 1 illustrates the measured characteristics for each of the eight study years. There was no significant change in the total number of ECTs administered to patients of all age groups combined, the total number of ECTs administered to patients in the age-bands 0–14 years and 75+ years, and the number and percentage of males receiving ECT before and after the introduction of the NICE guidance. There was a trend approaching statistical significance in the decline in the total number of ECTs administered to patients in the age-bands 15–59 years (Mann-Whitney U-Test, $Z = -1.94$, $p = 0.053$) and 60–74 years (Mann-Whitney U-Test, $Z = -1.94$, $p = 0.053$) after the introduction of NICE guidance. Furthermore, there was a significant increase in the mean age of patients receiving ECT after the introduction of the NICE guidance (Mann-Whitney U-Test, $Z = -2.38$, $p = 0.017$), and a significant decrease in the total number of ECTs administered as day cases after the introduction of NICE guidance (Mann-Whitney U-Test, $Z = -2.25$, $P = 0.024$).

The main findings were: (i) there was a decrease in the total number of ECTs administered as day cases after the introduction of NICE guidance; (ii) the mean age of patients receiving ECT increased after the introduction of the NICE guidance; and (iii) there was a trend towards a decrease in the total number of ECTs administered to patients in

Table 1. The characteristics of ECT administration over the eight-year period 1999/2000–2006/2007

YEAR	TOTAL NUMBER OF ECTS ADMINISTERED (%)							
	ALL AGES COMBINED	0–14 YEARS	15–59 YEARS	60–74 YEARS	75+ YEARS	MALES	DAY CASES	MEAN AGE
1999–2000	12739 (100)	0 (0)	6115 (48)	3517 (28)	3057 (24)	3765 (30)	1299 (10)	59
2000–2001	10140 (100)	0 (0)	4664 (46)	3346 (33)	2231 (22)	2959 (29)	1022 (10)	59
2001–2002	10060 (100)	0 (0)	4728 (47)	3219 (32)	2113 (21)	3030 (30)	1086 (11)	59
2002–2003	14968 (100)	0 (0)	7185 (48)	4490 (30)	3443 (23)	4370 (29)	1196 (8)	59
2003–2004	12295 (100)	0 (0)	5410 (44)	3934 (32)	2951 (24)	3420 (28)	668 (5)	60
2004–2005	10657 (100)	0 (0)	4689 (44)	3304 (31)	2771 (26)	3094 (29)	236 (2)	61
2005–2006	8983 (100)	0 (0)	3773 (42)	2695 (30)	2515 (28)	2616 (29)	255 (3)	62
2006–2007	8588 (100)	0 (0)	3263 (38)	3006 (35)	2233 (26)	2630 (31)	385 (4)	63

the age-bands 15–59 years and 60–74 years after the introduction of the NICE guidance.

Some methodological issues need consideration. First, the accuracy of the nationally collected hospital episode statistics is unclear because the data are collected via the patient administration systems in nearly 400 hospitals. Data collected from such a large number of hospitals may be of variable quality. However, this is the best available national dataset. Second, there were only eight data points in terms of study years (five before the introduction of the NICE guidance and three after), and this small number may lead to type 1 or type 2 statistical errors. Third, data were available for the actual number of ECTs administered rather than for the number of courses of treatment with ECT. Any impact of the NICE guidance on the number of ECTs administered would be influenced by both the number of courses of ECT administered and the number of ECTs administered within a course of ECT.

The finding that fewer ECTs were administered as day cases after the introduction of the NICE guidance may have several explanations. First, this may be an artefact of the methodological difficulties described above. Second, clinical practice may have become more conservative due to the stringent NICE guidance. One of the objectives of the NICE guidance was to improve patient safety. Thus, clinicians may have become reluctant to administer ECT, which requires an anesthetic, to patients who were not admitted to hospital. Third, the criteria for administration of ECT stipulated in the NICE guidance were sufficiently stringent that they would only apply to patients requiring admission to hospital because of the severity of their mental illness. The design of this study does not unequivocally support any of these possibilities.

The finding that there was a trend towards decline in the number of ECTs administered to patients in the age-bands 15–59 years and 60–64 years after the introduction of ECT may have several explanations. First, this may be an artefact of the methodological difficulties described above. Second, the clinical practice of clinicians may have altered because the NICE criteria for administration of ECT were stringent and clinicians are required to follow the NICE guidance. Third, other treatments may be used initially and more frequently as stipulated in the NICE guidance. Furthermore, clinicians now have access to prescribing a wide range of antidepressants with proven efficacy in the treatment of depression and a wide range of psychological treatments, including cognitive behaviour therapy, with proven efficacy in the treatment of depression. Long before the introduction of the NICE guidance there was

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emerging evidence of an increase in the prescription rates of prescription of selective serotonin reuptake inhibitors to treat depression over many years in England (Lodhi and Shah, 2004). Fourth, the prevalence and severity of depression in England may be changing. There is no evidence from epidemiological studies supporting this speculative explanation. The design of this study does not unequivocally support any of these possibilities.

The finding that the mean age of patients receiving ECT increased after the introduction of the NICE guidance sits uneasily with the caution in the NICE guidance that the risks associated with ECT may be enhanced in older people. This may be an artifact of the methodological issues described above. Alternatively, clinicians working with older people may not follow the NICE guidance rigorously. This is also supported by an absence of any change in the number of ECTs administered to those over the age of 75 years after the introduction of the NICE guidance. About 40% of people receiving ECT in the U.K. are over the age of 60 years (Pippard and Ellam, 1981; Department of Health, 1999).

There is a need to investigate further the impact of the NICE guidance on the use of ECT by continuing to observe the trends over time in the use of ECT for courses of ECT (rather then individual number of ECTs), by ascertaining the views of clinicians in the use of ECT with reference to the NICE guidance, and by using methodology that controls for the use of other treatments of depression.

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