

The knowledge and attitudes of mental health nurses to electro-convulsive therapy

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Three hundred and forty-five questionnaires containing the knowledge and attitude scale for ECT devised by Janicak *et al.* (1985) were distributed to mental health nurses working in Wales, the data were collected from the 167 returned. Limitations in the reliability of the instrument with respect to the degree of internal consistency were found, this suggested that the knowledge statements used were inconsistent in providing a reliable measure of respondents knowledge of ECT. Findings suggested that a higher level of knowledge appeared to be associated with the length of experience of the nurse and their area of clinical practice. In addition, there were substantial variations in actual knowledge, particularly with regard to cognitive side-effects with ECT. Attitudes to ECT in this study were significantly related to the place in which the nurse was practising and the degree of contact the nurse had with patients receiving the treatment. Greater knowledge scores were obtained by those nurses who indicated a more positive response towards ECT. The conclusions suggest that knowledge of ECT required improvement in many cases, and this has implications for nurse education. A relationship between knowledge and attitudes appears to exist in this study, however, such a relationship would need to be tested further in future research.

Keywords: mental health, knowledge, nurses, attitudes, experience, education, electro-convulsive therapy

INTRODUCTION

This study examined the knowledge and attitudes to electroconvulsive therapy (ECT) of a group of practising mental health nurses by postal questionnaire. The knowledge and attitude scale reported by Janicak *et al.* (1985) was used. The study aimed to assess the level of knowledge about ECT and the nurses attitude towards it as a treatment method.

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LITERATURE REVIEW

Nurses have been involved in the administration of ECT since it's earliest use. Clare (1976) stated that 'There is scarcely a more controversial or a more widely used treatment in contemporary British psychiatry than electro-convulsive therapy ECT' (page 223).

That ECT is still a contentious treatment seemed to be in no doubt when MIND (1991) the (National Association for Mental Health) in a special report stated that 'No other form of treatment has generated such a heated public debate'.

The dramatic nature of the treatment, combined with what can be understood as a natural fear of having an

electric current passed through the brain, means that the treatment could be seen as a form of punishment. Kalucy (1991) suggested that ECT had attracted attitudes which were unusual for a medical procedure, suggesting that it has been used as an elaborate metaphor of political control and punishment.

Kingman (1992) in the Independent newspaper reported the call from the Labour Party for a public inquiry into allegations that a consultant psychiatrist at Broadmoor Special Hospital consistently breached Mental Health Legislation. The account of administering unmodified ECT which is absolutely unnecessary, against a patient's will, provides a harrowing example of how the treatment can be perceived. More recently, Taylor (1995) expressed the fear and terror experienced as a result of compulsory treatment with ECT in her account of a survivor's tale. Fink (1991) whilst recognizing the fear people have about ECT, suggests that the controversy would not be sustained by their natural fears alone and that in the USA it has continued because of the activities of the antipsychiatry movement, which has in the past challenged the prescription of ECT in several states.

The controversy is fuelled further when the question of ECT is considered in the treatment of children. Barker & Baldwin (1990) discussed the morality of utilizing ECT as a possible option in the treatment of young people. They argued that nurses have a professional responsibility to challenge the prescription of ECT in the treatment of children and adolescents, because there is no evidence that it is appropriate or effective. Cobb (1993) in the MIND report, Safe and Effective, called for a ban on the use of ECT with children and young people under 18 years of age. The position of the Royal College of Psychiatrists on this was confirmed in the second report of their special committee on ECT (1995) which demonstrates clear indications for the use of ECT in people under 18 years of age and that whilst they have no evidence of the use of ECT in children under 12 years of age in the United Kingdom or Eire they would not recommend a ban upon it.

In the past the nursing profession has not been unanimous in its approval of ECT. Whyte (1982) argued that ECT was not justified in the context of scientific medicine because it was basically unscientific as there was no concrete evidence as to how it actually worked. He argued that psychiatry had advanced little since the 1950s and 1960s and consequently had relatively little left to offer in terms of treatment once ECT has been used. In a further development Whyte (1983) argued that conservative medical approaches to the treatment of mental disorder through the use of ECT and drugs deprived us of the opportunity to seek alternative methods. Mitchell (1983, 1991) whilst recognizing ECT was a controversial issue, accepted the empirical evidence of its success in the treatment of depression and argued that good nursing care was central to its administration. He countered any criticisms of the

treatment on the grounds that it was subject to abuse by suggesting that if any abuses were occurring they would, in all probability, be criminal and hardly an intrinsic fault of the treatment itself. Branfield (1992) suggested that nurses have an important and active role to play in ensuring that patients receive accurate information about the treatment, and to that end they may often be called upon to simplify and reinforce the explanation provided by the psychiatrist.

Freeman & Kendell (1980), in a study of patients' experiences and attitudes towards ECT found that patients wished to be told more about the treatment. Kalayam & Steinhart (1981) reported their survey of the attitudes of professionals including (psychiatrists, nurses, social workers, psychologists) patients and the general public towards ECT. Overall, the three groups are reported to have agreed on the appropriateness of using ECT for specific psychiatric conditions and on the definite clinical improvement associated with its use. Psychiatrists were acknowledged as having a positive response to every aspect of the treatment closely followed by the nurses. They concluded that the latter association may have been as a result of the increased exposure of the nursing profession closely allied to medicine and through being exposed to patients treated with ECT.

Janicak *et al.* (1985), in the USA, examined the knowledge and attitudes of four groups of mental health professionals towards ECT. They developed an ECT knowledge scale which consisted of 12 statements on ECT which allowed the respondents to indicate one of five responses to each statement on a Likert scale. Nurses came second to physicians on knowledge scores and showed a trend towards higher knowledge with increasing experience. In respect of attitudes, there was a clear trend towards an increased probability of choosing ECT among the more experienced nurses; attitudes towards ECT were positively related to levels of knowledge of ECT.

Their study indicated that for nurses and the other mental health professionals the more knowledge and clinical experience a mental health professional has, the more positive his or her attitude will be towards ECT as an effective treatment.

METHOD

A questionnaire was distributed by post to a convenience sample comprising all qualified mental health nurses (345) working in acute, continuing care and elderly wards, together with all community psychiatric nurses, from the mental health units of two Health Authorities. A letter asked each respondent to complete the questionnaire without consulting with colleagues or referring to literature, it made it clear that the decision to be included in the study rested entirely with the individual concerned. The questionnaire consisted of four parts. The

first section recorded biographical information such as sex, age, professional qualifications, length of experience, area of clinical practice and experience of ECT. The second section consisted of the knowledge scale, which contained 12 knowledge statements about ECT. Eight were factually correct requiring a response of strongly agree, whilst four were incorrect requiring a response of strongly disagree. The third section began the examination of the respondents' attitudes to ECT. It required the respondent to answer yes or no to a hypothetical choice of receiving ECT for different levels of depression. In the fourth section respondents were asked to make a choice between three methods of treatment, ECT, psychotherapy or drugs for different levels of depression. The questionnaire concluded by asking the respondent to evaluate their knowledge of ECT

Reliability and validity

Brink & Wood (1994) recommend that an established instrument should be tested on every occasion it is used with a new population. Cronbach's alpha coefficient (r) was calculated for the pilot study at $r = +0.38$. This suggested a low degree of internal consistency among the 12 items of the knowledge scale. The knowledge of respondents was scored by each totally correct response being given 4, a totally incorrect response scored 0 with 3, 2, and 1 for responses in between. A respondent could achieve a score of 24 simply by means of always providing an undecided response to the 12 knowledge statements. This was a further limitation to be recognized particularly if the mean total knowledge scores of respondents were around 50% of the maximum possible. Face and content validity for the knowledge scale was established by consulting with professionals acknowledged as being experts in their field and a review of relevant literature.

Analysis of data

Statistical analysis was carried out using SPSS PC for Windows. Separate analyses of the groups identified by virtue of the respondents area of practice were undertaken. The mean knowledge scores and Standard Deviation were calculated for each of the groups. Chi square values were computed for the responses to the attitudinal questions according to the main variables.

FINDINGS

One hundred and sixty-seven questionnaires were returned giving a response rate of 48.4%. This was not improved by the use of a further letter seeking the inclusion of the nurse in the study. There are many possible reasons for the low response. Most notably the fact

Table 1 Response rate by clinical area

Area	Sent	Returned	% of total	Response rate (%)
Acute	113	58	34.7	51.3
Continuing care	73	29	17.4	39.7
Community	69	51	30.5	73.9
Elderly	90	29	17.4	32.2
Total	345	167	100	

that this follow-up letter coincided with the Christmas post, Cohen & Manion (1989) have pointed to the hazards of a December postal questionnaire. A complete profile of the response from each area is provided in Table 1.

Community nurses followed by those working in acute care were the most responsive group of practitioners. Little is known about the 51.6% who chose not to respond to the questionnaire. However, from Table 1, it can be seen that most were practising in elderly care followed closely by continuing care staff. Their lower response rates highlight the possibility of response bias. Therefore, it was uncertain as to whether the number of respondents were representative of the large number who had chosen not to respond. It was not possible to determine the nature of their nursing qualifications except that they were all on at least one part of the UKCC single professional register. Details of the length of experience or contact with ECT were unknown.

There were 94 female and 73 male respondents. Just over a half were between 40 and 50 years of age with the remainder equally distributed between the ages of 20–30 years and over 50 years of age. Over 80% (137) of respondents had more than 5 years experience in nursing. First level nurses comprised more than 80% of respondents with Registered Mental Nurses (RMN) accounting for 67% ($n = 113$) of the total. An additional group of first level nurses could be identified and these comprised RMNs who also possessed an additional first level qualification usually in general nursing (RGN) or a Diploma in Nursing or Degree ($n = 25$). Enrolled Nurses E/N (M) accounted for just over 17% ($n = 29$) of the remainder. None of the respondents had completed the new Project 2000 type of training. Just over 28% ($n = 47$) had not worked with patients receiving ECT during the previous year. The majority of respondents (98%) assessed their level of knowledge as being minimally adequate or better. Just over 22% actually considered themselves as being quite knowledgeable on ECT, the majority 42% considering themselves adequate followed by 34% who considered themselves to be only just or minimally adequate in their knowledge. The minimum knowledge score was 26 and the maximum score 44 from a possible range of between 0 and 48. The mean total knowledge score of all respondents was 34.29 with a standard deviation of 3.31.

Knowledge of ECT

The highest mean scores came from the nurses working with the elderly (35.31) and the lowest found in those working in the community (33.92) see Table 2 with the difference between the highest and lowest scores being (1.39). Several factors may have contributed to this finding. The nurses working with the elderly may have had more exposure to physical methods of treatment and consequently favour this type of treatment in preference to alternative methods. Their knowledge may be based more exclusively upon literature derived from the field of biomedicine and consequently as measured may be greater than that of their colleagues. In addition the fact that the response rate from the short stay and community area was approximately twice that of the others (Table 1) suggests that the mean scores of the respondents from the acute and community area may be more homogenous than those of the nurses from continuing and elderly care settings.

Knowledge and experience, qualification and exposure to ECT as a treatment method

Table 2 shows how respondents with more than 5 years experience had a greater mean total knowledge score than those with less than 5 years experience, 34.54 as opposed to 33.1.

The mean total scores of the three categories of qualification show some small differences. However, the difference in the size of these groups and in the spread of the mean totals as demonstrated by the standard deviation (2.79, 3.4, 3.52), respectively, suggest that the knowledge of ECT as measured does not vary according to the qualification of the respondent. The level of exposure to ECT does

not appear in any way to be associated with a difference in respondents knowledge of the treatment itself.

Knowledge statements

Most respondents demonstrated a clear understanding of some of the common side-effects associated with ECT and a substantial proportion of respondents were able to demonstrate a sound knowledge of the indications for ECT. The majority of respondents were clearly aware of the necessity for informed consent to be obtained prior to the treatment being administered and demonstrated an understanding of the mechanism, and indications for, ECT along with the details of the procedure itself. For these aspects of knowledge less than 10% of respondents were incorrect by virtue of responding either unsure or incorrectly.

Between 25% and 37% of respondents were either unsure or incorrect in their response to statements which covered the areas of therapeutic effect, memory impairment and indications for ECT. The inability of more than one third of the respondents (37%) to identify memory impairment as a side-effect associated with ECT is cause for concern along with the 64% of respondents who were unsure or incorrect in their response to the statement examining the relationship between memory disruption and electrode placement.

Attitudes towards ECT

Respondents attitudes to ECT by answering either 'yes' or 'no' to receiving ECT for varying levels of depression are detailed in Table 3. It can be seen that only in the hypothetical situation of being extremely depressed (actively suicidal, and being unable to carry out the activities of daily life) did the majority of respondents choose ECT.

Table 2 Mean total by practice area, experience, qualification and exposure to ECT

	Mean total score	Standard deviation
<i>Area of clinical practice</i>		
Acute	34.12	3.42
Continuing care	34.28	2.43
Community	33.92	3.62
Elderly	35.31	3.24
<i>Length of experience</i>		
Less than 5 years	33.1	3.37
More than 5 years	34.54	3.26
<i>Qualification</i>		
E/N (M)	33.86	2.79
RMN	34.33	3.4
RMN + RGN/Diploma/Degree	34.6	3.52
<i>Exposure to ECT (years)</i>		
None	34.34	2.81
1-10	34.24	3.56
11-20	34.30	3.45

Table 3 Choose ECT for moderate, very and extremely depressed

Response/frequency	Moderate	Very	Extremely
No	159	111	52
Yes	7	55	111
Missing data	1	1	4
Total	167	167	167

The mean total knowledge score for those who responded 'no' to receiving ECT for extreme depression was (33.60) and the mean total knowledge score for those who responded 'yes' was (34.71). This shows a small difference (1.11) in the measured level of knowledge between the two groups of respondents to this particular attitude question. However, given the limitations in the knowledge statements previously described such a finding should not be interpreted as an indication that a relationship exists between knowledge and a more favourable attitude to ECT.

In the case of extreme depression (Table 4) the willingness of those respondents from the acute and elderly areas to receive ECT may have been associated with the level of contact with this particular form of treatment. Chi-square when computed for this grouping was 30.31 with 3 degrees of freedom, $P=0.001$. Whilst no inference can be made from this result it does suggest that a relationship may exist between choice of ECT and clinical area for the subjects of this study.

Table 5 shows that proportionally more respondents who were RMN and possessed a further qualification for example RGN, diploma in nursing or a degree chose ECT in the case of extreme depression. Chi square when computed for this grouping was 8.43 with 2 degrees of freedom, $P=0.02$. However, there are considerable differences in the size of these groups, there being approximately five times more RMNs than either of the others. Given evenly sized groups this finding may have been different.

Table 6 shows that whether the respondents had contact with ECT or not, most chose ECT in the situation of extreme depression. It is observed that in those respon-

Table 6 Choose ECT if extremely depressed according to the number of ECT

Response	No ECT	1-10 ECT	11-20 ECT	Row total
No	15	27	10	52
Yes	31	33	47	111

dents with more contact with patients receiving the treatment a proportionally larger number chose ECT than those with either less or no contact. Chi square when computed for this grouping was 11.64 with 2 degrees of freedom, $P=0.01$.

An attempt to clarify attitudes further by asking respondents to make a choice between receiving either ECT, psychotherapy or drugs for the three levels of depression was made. From Table 7 the majority of respondents considered ECT as the third choice when presented with alternatives for the situation of moderately depressed or very depressed (143 and 112), respectively, even more noticeable is that most respondents (75) continued to make ECT their third choice even for the situation of being extremely depressed.

Unlike the previous situation in which the choice was to either have ECT or not, in these circumstances respondents favoured the alternative options more strongly. Psychotherapy was the first choice of 38 respondents. The use of antidepressant medication was the first choice of 68

Table 7 Choose ECT if moderately, very or extremely depressed

Response/frequency	Moderate	Very	Extremely
First choice	1	9	56
Second choice	7	31	24
Third choice	143	112	75
Missing data	16	15	12
Total	167	167	167

Table 4 Choose ECT if extremely depressed by clinical area

Response	Acute	Continuing care	Community	Elderly	Row total
No	8	17	23	4	52
Yes	47	12	27	24	110
Total	55	29	50	29	163

Table 5 Choose ECT if extremely depressed by qualification

Response	E/N(M)	RMN	RMN + RGN, diploma, degree	Row total
No	10	38	4	52
Yes	18	73	19	110

respondents constituting the most favoured treatment option, whilst ECT was the first choice of 56 respondents.

DISCUSSION

Janicak *et al.* (1985) found that increased knowledge correlated with length of experience. The present study found a small difference in mean total knowledge scores between experienced and less experienced nurses. This may be indicative of more experienced respondents having greater exposure to ECT as a treatment method, consequently having more opportunity to care for patients receiving ECT. More experience could provide first hand exposure to both the practical administration of ECT but also to the outcomes and side-effects attributed to the treatment process. Given the limitations previously discussed in relation to the scoring of the knowledge scale, the difference of 1.44 in mean totals between more experienced as opposed to less experienced nurses (see Table 2) may not be so important. Furthermore, the fact that ≈ 4.5 times as many respondents had more than 5 years experience than had less than 5 years (137 as opposed to 29) is perhaps the most important factor. In this situation a comparison of such unequal groups is dubious. This may indicate that those nurses who have most recently completed their education have the least knowledge about the subject. There may be many reasons for this, one of which could be the movement away from the medical model in nursing curricula to one which has an emphasis on psychosocial care. Quinn (1988 p. 288) in writing about the teaching of biological concepts stated:

It has been suggested that the recent growth of interest in the social sciences within nursing may be displacing the biological sciences from curricula, with a resultant weakening of the pathophysiological basis of clinical practice.

Trnobranski (1993) in commenting about the biological sciences and the nursing curriculum suggested that whilst there has been a considerable emphasis upon the social and behavioural sciences there has been a corresponding tendency to reduce the value of the role of biological sciences in the curriculum. She suggested that nurses have had difficulty in applying knowledge from lectures to the practical situation found in wards.

Trysgstad (1994) asserts that psychiatric nursing needs to integrate an expanding biological focus into nursing practice so that the expanding biological knowledge base can be accommodated along with changing patients needs. In examining the perceived needs of practising psychiatric nurses it is salient to note that ECT was not referred to as an area which required further development. This begs the question as to what is the state of preparation and training for mental health nurses in relation to ECT. Pippard (1992) in the audit of ECT within two NHS Regions commented on nurses and patient care (he indicated) that whilst not

having checked systematically the training of nurses, it appeared to him that most seemed to acquire their skills by working with experienced staff. Respondents knowledge of memory impairment as a side-effect of treatment was weak. This is of particular significance as the nurse would often be in a position to discuss the patients' concerns about the treatment with them and be an important provider of care during the period immediately following treatment. The nursing guidelines for ECT approved by the UKCC and published in the ECT Handbook (1995 p. 117) refer to providing for the psychological needs of patients. In particular it details how 'The likelihood and management of minor side-effects (e.g. a short period of confusion and disorientation immediately after treatment, a headache, and short-term memory problems) should be explained. The nurse should confidently and promptly answer the patient's questions, although certain questions (e.g. medical diagnosis, queries about the anaesthetic, issues relating to the Mental Health Act) are best referred to the appropriate member of the ECT clinic staff.'

Recognizing memory impairment as a problem may be the first step for the nurse in helping the patient undergoing ECT. Patients do report experiencing memory difficulties. In their study Riordan *et al.* (1993) found that 75% of the patients experienced memory problems. In considering the findings of the present study this suggests that much could be achieved by reviewing the preparation of mental health nurses in relation to ECT. This is especially so given the finding that more favourable attitudes towards this method of treatment were associated with increased knowledge. Studies have previously demonstrated a link between training and an improvement in mental health nurses knowledge and attitudes (Gamble *et al.* 1994). In this study into the effects of family work training on mental health nurses' attitudes to and knowledge of schizophrenia, the subjects' knowledge increased and attitudes changed during the initial period (3 months) and these gains were maintained throughout the 9 month course. Furthermore, the benefit of educating relatives of clients receiving care from mental health services has been discussed by Brooker *et al.* (1992). They reported how community psychiatric nurses (CPNs) could be trained to provide relatives of clients with schizophrenia with knowledge about their illness, the benefit of this being the manner in which the relative continues to relate to the sufferer afterwards.

Burns & Stuart (1991) discussed nursing care in electroconvulsive therapy and in particular the use of knowledge of somatic therapies and applying clinical skills in working with patients. Four major aspects of care were identified: (1) providing emotional and educational support to the patient and family; (2) assessing pretreatment; (3) preparing and monitoring the patient during the actual procedure; and (4) observing the patients' responses to ECT and recommendations for changes in the treatment

plan. The requirement for nurses to possess a level of knowledge and appropriate attitudes is obvious in respect of the four aspects of care above. The wide range of mean knowledge scores found in this study (range 26–44), with more than 55% of respondents scoring less than the mean of 34.29, suggests the need for more education in respect of this treatment.

From a practical point of view, the advantage of this may be that a treatment which is often perceived as being barbaric (Cobb 1993, Wallcraft 1993) and punitive can be explained honestly and sensitively by a knowledgeable practitioner to a patient and their family. Freeman & Kendall (1980) in their study into patients' experiences and attitudes found that 15% of the subjects interviewed appeared to have a full understanding of what treatment with ECT involved, whilst 30% had no understanding and 43% had a partial understanding. Recognizing that some of the subjects prior to their study had been given detailed explanations before having ECT, the authors concluded that second explanations may be beneficial for patients after their treatment has been concluded. The opportunity for the nurse to intervene effectively both during and after the course of treatment has been completed is very clear. Support for the patient may be enhanced through effective teaching. Informed consent, being a dynamic process, requires the nurse to be knowledgeable and capable of discussing the treatment in an honest and open manner. Given the well recognized cognitive deficits associated with the treatment (Fink 1979, Freeman *et al.* 1980, Abrams 1992), the requirement for the patient to be able to continue giving their informed consent can be facilitated through this intervention. The importance of this is referred to by Ritter (1989) who recognizes the importance of the nurses role in confirming with the patients doctor that consent continues to be given and that further discussion and explanation may be required with the nurse contributing towards this in a non directive manner.

In relation to respondents attitudes from Table 3, they clearly saw ECT as a treatment of last resort. This suggests that even if having difficulty in coping with the daily activities of life and experiencing suicidal thoughts (very depressed), most would not choose a form of treatment which may rapidly improve their mental state. The environment within which the respondents were practising (Table 4) appears to have influenced the choice of receiving ECT. Respondents may have made their decision to receive ECT on the basis of personal experience of the effectiveness of the treatment with patients and positive attributions of the effectiveness of ECT by others in their working environment. Perception of staff attitudes was identified as a critical mediator by Hillard & Folger (1977) in a proposed explanation of the placebo effect with ECT. In this way favourable attitudes and full briefings upon the treatment may increase the probability of positive ECT attributions. This may be important when considering the response of the community nurses who, more than the other groups, were less likely to

be involved in the administration of ECT. Only in this 'last resort' situation was the degree of contact with the treatment (Table 6) and involvement with patients receiving it factors which may have contributed to the favourable responses to ECT. On this point, it is interesting to note that Kalayam & Steinhart (1981) proposed that a lack of exposure to ECT was a contributory factor for the less positive responses found in their study.

However, when actually given the opportunity to exercise a choice about the type of treatment to be received (Table 7) the majority of respondents only considered ECT as their third or final (last resort) choice. It seems evident that the majority of respondents held more favourable attitudes towards the use of antidepressant drugs as a means of treatment for extreme depression. It is interesting that talking approaches (psychotherapy) as advocated by Cobb (1993) were seen as being less helpful in this situation. Even so, what seems to be clear is that even in these extreme circumstances when ECT is often the treatment of last resort, respondents still favoured alternative forms of treatment when given a choice.

RECOMMENDATIONS

Consideration should be given to the education of nurses both at pre and post registration stages and this should be developed to meet the requirements of nurses working in those areas where the treatment is used and made available to the wider nursing workforce. The notion of better training in ECT is not unique to nurses and Pippard (1992), in respect of training, called for all those involved in the administration of ECT (nurses, psychiatrists and anaesthetists) to have specific training in the skills needed for their specific roles.

Whether on a multidisciplinary basis or in isolation, mental health nurses and their educators should review the preparation in ECT which is provided to nurses and ensure that they are appropriately prepared both in terms of their knowledge and in considering their personal feelings about the treatment.

CONCLUSION

From this study into trained mental health nurses knowledge and attitudes towards ECT the following conclusions can be drawn.

A higher level of knowledge appears to be associated with the length of experience of the nurse and their area of clinical practice. In addition, even though many respondents evaluated their knowledge of ECT as being quite adequate or adequate, there were substantial variations in actual knowledge among the population studied. Knowledge of ECT required improvement in many cases, and this has implications for nurse education.

Attitudes to ECT in this study were significantly related

to the place in which the nurse is practising and the degree of contact the nurse has with patients who are receiving the treatment and the possession of additional qualifications (for example second and first level registration, diploma or degree). Greater knowledge scores were obtained by those nurses who indicated a more positive response towards ECT. Therefore, a relationship between knowledge and attitudes appears to exist in this study. However, owing to the significant limitations in the knowledge scale previously identified and the low response one cannot be sure that this relationship is anymore than one of chance. Such a relationship between knowledge and attitudes would need to be tested in future research.

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