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Electroconvulsive therapy : An assessment of experience, knowledge, and attitudes of clinical psychologists in Western Australia

Dawn A. Barrett
Edith Cowan University

Edith Cowan University

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ELECTROCONVULSIVE THERAPY: AN ASSESSMENT OF EXPERIENCE, KNOWLEDGE, AND ATTITUDES OF CLINICAL PSYCHOLOGISTS IN WESTERN AUSTRALIA

Dawn Anne Barrett, BA (Psych) Hons.

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Abstract

Introduced to modern psychiatry in 1938, electroconvulsive therapy (ECT) is the application of an electrical current to the brain, administered under a general anaesthetic and with the use of muscle relaxants. The procedure is primarily used for psychiatric disorders and remains a controversial intervention. Issues of contention centre on claims of efficacy, safety and the validity of 'informed' consent. Prominent side effects include memory loss with psychological sequelae reported to include fear, grief and loss. Previous studies of mental health professionals report, experience of working in an ECT environment increases knowledge and promotes a positive attitude. Very few studies have included psychologists who are reported to be generally negative towards the procedure. Given the nature of the side effects of this psychiatric procedure, lack of knowledge about ECT may influence the practice of psychologists.

The aims of the study were to assess the knowledge of, and attitudes towards ECT of clinical psychologists in Western Australia. Information was also elicited from clinicians about their experience of working with clients who have undergone ECT. In particular, the survey elicited information of practice issues with these clients.

A newly developed scale was used in the assessment and consisted of items constructed from evidence-based literature. An expert panel consisting of mental health professionals and a consumer who had undergone ECT contributed towards the content and face validity of the scale. Demographic information such as age, gender, qualification details, experience with mental health clients (and clients who had undergone ECT), self-rating of ECT knowledge and source of ECT knowledge were also sought. Quantitative analysis was undertaken using a computer based statistical package for frequencies, percentages and cross tabulations. Where appropriate, inferences were drawn from chi square analyses.

The first phase of the study involved piloting the questionnaire with postgraduate psychology students (n = 23), nursing students who had undergone at least one placement at a mental health unit (n = 136) and mental health staff (excluding clinical psychologists) (n = 26) working in an ECT setting. The pilot study provided an opportunity to amend the questionnaire prior to its use in the final phase. The final questionnaire was distributed by mail to 500 registered clinical psychologists in Western Australia. A total of 197 questionnaires were returned

representing a return rate of 39%. After taking into account blank or returned questionnaires, the final return rate was 37% which represented 186 respondents.

The survey found 55% of clinical psychologists self-rated their knowledge of ECT as minimum with a minority (4%) rating it to be high. Colleagues (83%), followed by scientific literature (63%), and clients (55%) were cited most often as sources of ECT knowledge. Respondents with more than five years experience in an ECT setting cited colleagues (95%) and those with nil experience in a similar setting cited scientific literature most often (70%).

The survey results indicated, when assessed with items constructed from evidence-based literature, 27% of the respondents had scores in the high range, 61% had scores in the moderate range and only 10% had scores in the minimum range. Respondents with nil experience in an ECT setting were more knowledgeable about wider issues related to ECT practice such as its use with younger patients and the practice of unmodified ECT in other parts of the world. Although having more correct answers when compared to their counterparts with less or nil experience in an ECT setting, experienced clinicians also had a higher percentage of incorrect answers about longer-term cognitive and psychological side effects of ECT.

Overall, the survey found 81% of the respondents strongly disagreed that ECT-related memory loss is a myth. Approximately two-thirds (68%) reported they would not agree to undergo the procedure if recommended by their treating doctor. These views were reflected in the themes that emerged from elicited comments. Client well-being, ECT outcomes, lack of options for clients, and difficulties of working within a multidisciplinary team were some of the issues facing clinicians who work with clients who have undergone ECT.

The strengths of the study lie in the methodology and utility of a scale for use with psychologists. With no previous study of clinical psychologists in Western Australia, the findings provide a snapshot of contemporary views and knowledge. Deficits in knowledge among clinicians with experience in an ECT environment, about the longer-term cognitive and psychological side effects of ECT are concerns that need to be addressed in appropriate forums such as education and professional training.

I certify that this thesis does not, to the best of my knowledge and belief:

(i) incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education;

(ii) contain any material previously published or written by another person except where due reference is made in the text; or

(iii) contain any defamatory material.

Signed: [redacted] Date: 27/7/04

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CHAPTER ONE

Electroconvulsive therapy (ECT) is the application of an electrical current to the brain to elicit a generalised seizure for the treatment of severe mental illness (Enns & Reiss, 2003). Previously administered without the use of muscle relaxants and general anaesthetic (referred to as unmodified ECT), contemporary administration in *most* countries includes the use of these drugs and is known as modified ECT or ECT. Occasionally, the procedure is called electroshock therapy or electroshock of the brain (Fink, 1999). Initially advocated as a treatment for schizophrenia, ECT was introduced to American psychiatric practice from Europe in 1940 (Beer, Jones, & Lipsedge, 2000). Following this introduction, the use of ECT for psychiatric disorders expanded dramatically in the era pre-dating the dominance of anti-depressants and psychotropic drugs (Endler & Persad, 1988). More recently, the procedure is promoted as a safe and effective treatment, primarily for mood and thought disorders (American Psychiatric Association, [APA], 1990). With high rates of mortality associated with mood disorders (Harris & Barraclough, 1998), ECT is regarded as a life-saving procedure (National Health & Medical Research Council, [NHMRC], 1985) and in Western Australia, administration to involuntary patients is legislated in the Western Australian Mental Health Act (1996).

In 1975 the APA established guidelines for ECT practice, and following review, these guidelines were updated (APA, 1990). This initiative was followed in other parts of the world by professional bodies such as the Canadian Psychiatric Association (CPA) in Canada (Enns & Reiss, 2003), the Royal College of Psychiatrists (RCP) in the United Kingdom (UK), (RCP, 1977), and the Royal Australian and New Zealand College of Psychiatrists (RANZCP) in 1982 (NHMRC, 1985) in Australia and New Zealand. In keeping with APA practice, professional recommendations and guidelines are reviewed and updated periodically. Although guidelines are relatively similar, recommendations for practice differ in some instances, reflecting the influences of legislative practices of the country. Nonetheless, by and large, guidelines endorsed by the APA are generally followed outside the United States of America (USA).

Diagnosis, severity of symptoms, risk-benefit ratio, prior treatment history, treatment options and patient's preference have been recommended as factors that generally need to be considered in combination, prior to referral for ECT (APA, 1990). However, primary use of ECT is indicated (but not limited to) when a quick

response is desired on medical or psychiatric grounds; when the risks associated with ECT are less than those of other treatments; when the patient has had a prior good response to ECT and a poor response to medications, and finally, when ECT is the patient's preferred treatment (APA, 1990). Generally, a treatment schedule consists of 2-3 treatments per week, given on non-consecutive days (APA, 1990). A course of ECT (usually 6-12 treatments) may be shorter or longer depending on patient response and severity of adverse side effects (APA, 1990). To ensure patient wellbeing and safety of undergoing a multidisciplinary procedure, good clinical practice includes pre-ECT work-up, as well as on-going evaluations between treatments, and post-ECT follow up (APA, 1990).

There are no contraindications to ECT (APA, 1990). Reflecting recommendations, raised intracranial pressure once considered an absolute contraindication, is no longer considered an obstacle for some psychiatrists in the USA (Patkar, Hill, Weinstein, & Schwartz, 2000), but not so in Australia and New Zealand, where the RANZCP (1999) proposes it is the only contraindication. Benbow (1991) in a study of psychiatrists performing ECT on elderly patients in the UK found what constituted a contraindication for one psychiatrist was not necessarily so for another. Strachan (2001) reports psychiatrists in New Zealand cite 17 medical conditions as absolute or relative contraindications. The wider body of ECT literature is less cautious and supports the treatment of depression with ECT across all patient populations including the medically ill (Rasmussen, Rummans, & Richardson, 2002; Singh, Binstadt, Black, Corr, & Rummans, 2001). Current diagnostic trends include non-psychiatric disorders as indicators for ECT, for instance, movement disorders (Beale, Kellner, Gurecki, & Pritchett, 1997; Singh et al., 2001) and pain syndromes (Rasmussen & Rummans, 2000). ECT is also promoted as an effective intervention, targeting behavioural symptoms such as aggression in schizophrenia (Hirose, Ashby, & Mills, 2001) and in dementia (Grant & Mohan, 2001), as well as screaming in dementia (Roccaforte, Wengel, & Burke, 2000). Considered as "... one of the most empirically-based interventions in mental health practice ..." (McClelland, 2001, p. 34), the expansion in psychiatric, non-psychiatric and behavioural indicators for ECT is reminiscent of its earlier practice history. However, distinguishing contemporary ECT practice from previous historical trends, Hermann, Ettner, Dorwart, Langman-Dorwart and Kleinman (1999) assert modern day ECT practice is evidence-based. Despite professional

endorsement, unease associated with ECT persists and is not a new phenomenon. Introduced to modern psychiatry by Ugo Cerletti in 1938 (Endler & Persad, 1988), contention has, and remains, centred on issues related to safety, efficacy and informed consent (Breggin, 1998; Cameron, 1994). Validity of this debate can be found within the context of knowledge of ECT i.e., administration, efficacy and side effects, and subsequent attitudes towards the procedure.

With an established place within the psychiatric armamentarium, ECT practice trends suggest variability in prescription may be inextricably linked to practitioners' views and attitudes towards the procedure. Pippard and Ellam (1981) in an audit of ECT in the UK found only 35% of psychiatrists indicated having prescribed ECT in the six months prior to the study. This trend has persisted as the rates of ECT usage in the UK are declining (Eranti & McLoughlin, 2003). Of interest, in New Zealand, although favourably regarded by 49% of practitioners surveyed, ECT usage rates have dropped from 83% to 60% in the past five years (Strachan, 2001). An earlier survey in Western Australia found psychiatrists clearly polarised, with 50% practising ECT and 50% no longer practising it or opposed to it (Bucens, Davis, & Welborn, 1986). Latey and Fahy (1988) report psychiatrists' favourable views towards ECT accounted as one (of three) of the major predictors of ECT and the subsequent variation in practice rates in the Republic of Ireland. From the psychiatrists' perspective, in a European study of mental health professionals' preferences for psychiatric treatment, Amering, Denk, Griengl, Sibitz and Stastny (1999) report the rejection of ECT by a significant number of psychiatrists if the procedure was considered a treatment option for them in the future.

Trends in ECT Practice

It is estimated approximately 1 000 000 patients around the world undergo ECT annually (Prudic, Olfson, & Sackeim, 2001) but global trends of the practice are highly variable. Some of these trends are influenced by non-medical factors with epidemiological studies indicating an uneven pattern of prevalence and incidence. In the USA, longitudinal studies have considered the impact of health care systems (Hermann, Dorwart, Hoover, & Brody, 1995; Thompson, Weiner, & Myers, 1994) and state legislation (Finch, Sobin, Carmody, DeWitt, & Shiwach, 1999) in accounting for these variations. Noticeable in practice trends is the disparity between the low number of ECT practitioners and the high number of patients undergoing the procedure. Hermann, Ettner, Dorwart, Hoover and Yeung (1998) report less than 8%

of psychiatrists perform ECT in the USA where it is estimated 100 000 persons undergo the procedure each year; a figure similar to appendectomies or hernial surgeries (Fink, 1999). Considered within the context that mood disorders (clinical indicators for ECT) are the primary diagnoses treated in the USA and account for the highest proportion of the caseload carried by psychiatrists in that country (Zarin et al., 1998), the low percentage of ECT practitioners is notable.

By and large, studies carried out in the USA have consistently reported a higher prevalence of ECT in the privately insured sector (Thompson et al., 1994), with practice patterns linked to clinician characteristics such as gender, training and clinical orientation (Hermann et al., 1998). Trends also indicate being Caucasian, female, aged over 65 and with private insurance are significant predictors of ECT in the USA (Hermann et al., 1995); trends consistent with those found by Morrissey, Steadman and Burton (1981) several years earlier. Similar to demographic patterns in the USA, a national study of patients who received private psychiatric services while registered with Medicare found ECT recipients in Australia are more likely to be over 65, with a higher ratio of female to male recipients (Jorm & Henderson, 1989); a gender ratio still current (Teh, 2004). Contrary to American health insurance patterns of usage, Bucens et al. (1986) report ECT is performed more often in public rather than private hospitals in Western Australia and this trend appears to have been sustained to date for involuntary ECT (Teh, 2004). In addition, demographics for the period 1988-2001 indicate patients were younger (in their 40s) and a high proportion (43%) of people given ECT in Western Australia were from non-English speaking backgrounds (Teh, 2004). Analogous to health insurance trends in Western Australia, a recent survey conducted between January and March 1999 in the UK reports 96% of the ECT administrations were carried out in National Health Services (NHS) settings (Department of Health, [DoH], 1999). And, similar to American demographic trends, 88.5% of patients were Caucasian and 68% female, of whom, 41% were over 65 years of age (DoH, 1999). In Ireland, Latey and Fahy (1988) found health insurance status had no bearing on ECT practice but higher ECT rates were associated with those hospitals that had a higher turnover of patients.

In Australia, in a retrospective study of the use of ECT for depression, O'Dea, Mitchell and Hickie (1991) report between July and December 1989, a total of 915 patients underwent the procedure. Wood and Burgess (2003) report in the state of Victoria, Australia, person-treated rates in 1998-99 were 33.9 per 100 000 resident

population per annum. Trends in Western Australia indicate a steady increase between 1997 and 2001, with an estimated 1 175 people given ECT during this five-year period; an increase of 70% compared to 1% increase in population growth for the same period (Teh, 2004). The wider use of ECT for psychiatric disorders (other than depression) is not known but it is estimated 3 500 courses (8-10 treatments per course) of ECT are performed annually in Australia (Wijeratne, Halliday, & Lyndon, 1999).

However, global ECT rates may be under-reported and may not reflect accurate usage rates. Latey and Fahy (1988) urge caution in interpreting data drawn from estimations as the authors note even when ECT registers are maintained, only 39% of centres in Ireland adhered to monitoring practice very carefully (Latey & Fahy, 1988). Pippard (1992) in a survey of ECT practice in the UK noted several discrepancies in *official* and *actual* figures sent to the DoH. For example, in one instance 171 ECT administrations were reported to the DoH when in fact the true figure was 439 administrations (Pippard, 1992). Supporting observations made by Latey and Fahy (1988) several years earlier, and those made by Pippard (1992) a decade ago, it is apparent when reliable data are collected, patterns of usage have greater accuracy and reflect higher rates of practice than estimations. This is evident in the UK where the DoH made a concerted attempt to collect accurate data on ECT usage after finding data collected through Hospital Episode Statistics were incomplete and inaccurate (estimated to be less than 25% of ECT activity recorded) (DoH, 1999). Incomplete data were found to be a result of ECT administrations not being recorded or personnel/organisations not being aware of ECT codes for recording purposes (DoH, 1999). Over the first quarter of 1999, the DoH found 2 800 patients underwent 16 482 treatments and states these figures represent a current "... and accurate snapshot picture of the use of ECT..." in the UK (DoH, 1999, p. 2).

Studies in various countries over the decades have examined clinical indicators for ECT and report relative uniformity in practice. In Australia, people considered being at risk of self-harm and whose physical condition is compromised are most likely to be admitted into hospitals for the procedure (Bucens et al., 1986; Galletly, Gield, & Ormond, 1991; Gassy & Rey, 1990; Wijernatne et al., 1999). Pippard and Ellam (1981) report "overwhelming agreement" among respondents in the UK that " ... the main (and for many, the only) indication for ECT was in the conditions

included in the group 'depressive psychosis; involutional melancholia; endogenous depression'...." (p. 564). Benbow, Tench and Darvill (1998) found psychiatrists in the north-west of England adhered more closely to the indicators proposed by professional bodies such as the APA, with depressive illness accompanied by the refusal to eat or drink rating high (89%) and depressive illness which was previously responsive to ECT but not drugs, rating close behind (85%). More recently, Strachan (2001) reports psychiatrists in New Zealand were of the opinion that depressive psychosis was an appropriate indicator for ECT. In an American study of ECT practice in the community, Prudic, et al. (2001) report major depression was the most frequent indicator for ECT.

Relatively close agreement on diagnoses treated by ECT among practitioners in the UK, USA, Australia and New Zealand often does not extend to other countries where the practice trends are even more variable and less publicised. For example, ECT is unpopular in Japan (Khan, Mirolo, Hughes, & Bierut, 2001) but due to limited access to psychiatric drugs, ECT is a first line treatment option in the Ukraine and the Crimea (Egorov & Kirienko, 2000). Biologically orientated psychiatrists in Cuba are clearly divided with half of the profession supporting ECT and the other half rejecting it (Collinson & Turner, 2002). In India with the prohibitive price of drugs and unavailability of anaesthetics (Shukla, 1981), unmodified ECT continues to be practiced, albeit in the face of active opposition (Mudur, 2002). Similar constraints on resources promote unmodified ECT in Nigeria (Eranti & McLoughlin, 2003). Although more readily accepted as a treatment for schizophrenia in China than in the USA (Tang & Ungvari, 2001), psychiatric abuses in China involving ECT have attracted criticism (Lyons & O'Malley, 2002). In essence, highly variable practice trends, psychiatric abuses and the promotion of ECT by a minority in the psychiatric community, fuel, albeit only partly, the controversy that has plagued the practice of ECT over several decades.

Controversy

To a substantial extent, ECT controversy is driven by its side effects, the most prominent being memory loss, the severity and nature of which is contingent on aspects related to administration (Abrams, 1997b). However, despite established practice guidelines endorsed by professional bodies in America (APA, 1990), Canada (Enns & Reiss, 2003), UK (RCP, 1977) and Australia and New Zealand (NHMRC, 1985), reports on clinical practice indicate little agreement among

practitioners related to the technical administration of ECT and safety aspects of the procedure in the UK (Duffett & Lelliott, 1998; Pippard, 1992; Pippard & Ellam, 1981; Shah & Benbow, 2002), in Canada (Yuzda, Parker, Parker, Geagea, & Goldbloom, 2002), and in Australia (Halliday & Johnson, 1995). Against this highly inconsistent practice background, the non-acceptance of ECT as a treatment option continues within medical disciplines (Breggin, 1998; Freidberg, 1976), the wider therapeutic community (Baldwin & Jones 1996; Breeding, 2000; Clarke, 1995; Dawson, 1997; Youssef & Youssef, 1999), and the general community (Cameron, 1994; Eastgate, 1998; Frank, 1994). Perhaps this scenario exists, partly because "... understanding the mechanisms ... by which it relieves depressive symptoms and causes amnesia and related cognitive deficits ..." (Khan, et al., 2002, p. 508), is an all too familiar concluding statement in contemporary literature, despite the prominence of ECT as a psychiatric option over the past several decades. Considering there have been approximately 2 555 articles published on ECT between 1985-2001 and a dedicated journal on ECT (Walter, 2002), repeated future directions as articulated above in the review by Khan et al. (2002) contribute towards maintaining the unease associated with the practice within and outside the psychiatric community.

Kellner, Pritchett, Beale and Coffey (1997) assert ECT is not "overcomplex" to master, but "has multiple, profound effects on brain systems" (p. 5). Physiological states of critical magnitude occur in the body during ECT, including changes in cerebral blood flow and heart rate (Ding & White, 2002). Not surprisingly, the recommendations for practice are cognisant of the need for ECT to be administered by trained professionals (Kellner et al., 1997). Despite these complexities, mortality rates *directly attributable* to ECT are reported to be low (NHMRC, 1985) and estimated by ECT proponents to be in the region of two deaths in 100 000 treatments (Abrams, 1997a). In the absence of mandatory reporting of practice in most parts of the world, this *estimation* underpins the premise of ECT safety.

Fink (1999) maintains popular media, inadequate training and education of professionals, and government legislation, influence people's views on ECT. From the perspective that considers the impact of media, it has been suggested interpretations of psychiatric practice in films have the potential to influence attitudes towards interventions (Rosen, Walter, Politis, & Shortland, 1997). For example, adaptation of Ken Kesey's novel to film in *One flew over the cuckoo's nest* is often

regarded by ECT advocates as highly prejudicial against the procedure's therapeutic status (Freeman, 2001; Goodman, Krahn, Smith, Rummans, & Pileggi, 1999; Kellner, et al., 1997; Salzman, 1998). Similarly, *An angel at my table* is perceived to be promoting ECT as a punitive and controlling tool of social control (Kalucy, 1991). This belief is supported to a degree. Lui and Yim (1996) in a survey of students from allied health disciplines and high school students cited media most frequently as their source of information about ECT. However, contrary to the belief system of ECT advocates, Lui and Yim (1996) found respondents reported media did not influence attitudes, but rather attitudes were influenced by ECT being perceived to be an outdated treatment.

Concerns about uneven trends in ECT practice have led to closer examination of training and education of ECT among psychiatrists. In an Australian study Halliday and Johnson (1995) found a majority of trainees (96%) had administered ECT. Henderson, Anderson and Stark (1993) surveyed doctors involved in ECT practice in Scotland and found 99% had administered ECT. These high rates suggest concerns raised by Fink (1999) are not justified, as more than adequate education and training opportunities are provided to trainees. On the other hand, this scenario suggests uneven practice trends allude to the influence of other factors.
Prompted by controversy and efforts to explore uneven practice trends, views towards ECT are often explored in surveys. In particular, knowledge and attitudes towards ECT have been assessed in surveys of students (Clothier, Freeman & Snow, 2001; Liu & Yim, 1996; Walter, McDonald, Rey, & Rosen, 2002) and mental health professionals (Bucens et al., 1986; Gass, 1998; Ghaziuddin, et al., 2001; Janicak, Mask, Trimakas, & Gibbons, 1985; Lutchman, Stevens, Bashir, & Orrell, 2001; Walter, Rey, & Starling, 1997). Authors consistently report results being remarkable for their themes of negative attitudes, misinformation and misconception about safety and efficacy. In a climate of multidisciplinary service delivery, basic knowledge of dominant approaches such as psychopharmacotherapy and psychiatric procedures should be an essential part of professional curricula for mental health professionals (Leinbaugh, 2001), an approach strongly endorsed some 16 years earlier by Janicak et al. (1985). From a personal perspective, Perkins (1994), an ECT recipient, poignantly recounts her lack of knowledge about the side effects of ECT despite practising as a mental health professional in an ECT setting for several years. Her

reflections underscore the multiple advantages of mental health literacy as advocated by Leinbaugh (2001).

Mental Health Literacy

Initiatives in the mental health arena in Australia are helping to bridge the gap between consumers and service providers through a system of legislated service provision embodied in the National Mental Health Strategy (NMHS) (Australian Health Ministers, 2003). Momentum for this initiative came from a national enquiry into human rights and mental illness (Burdekin, 1993). Therefore, the framework of the NMHS was, and continues to be, embedded in consumer rights and reforms, as well as consultative and democratic processes between consumers, carers and service providers (Australian Health Ministers, 2003). Although participatory processes have found a platform in the area of policy and planning in mental health services, the experience of the consumer within the hospital system remains largely under-explored. The implications of this are many, as studies have found experiences within the hospital environment influence the patients' views on treatment and help seeking behaviours (Barrett, 2001). This scenario is not limited to the experience of inpatients, as Jorm et al. (1997) report individuals in the general community rate complementary therapies such as massage higher than services from psychologists, psychiatrists and social workers. Indicating similar preference for non-biological approaches, in a general community survey conducted in Switzerland, Lauber, Nordt, Falcato and Rossler (2001) report individuals rated psychologists (68%) and fresh air (54%) higher than seeing a psychiatrist (51%), taking anti-depressants (21%) or undergoing ECT (1%).

Language too has played an important role in empowering people who access mental health services in Australia; they are acknowledged as consumers of those services (Wadsworth & Epstein, 1998). However, the change to politically correct language is not one without critics who demand rhetoric is replaced by action as inherent in the referent *consumer*, is the suggestion that one has access to choice (Barrett, 2001). In a consumer driven society, mental health literacy plays an important part in knowledge acquisition, help-seeking behaviours and decision-making processes of consumers and practitioners (Jorm et al., 2003). This is particularly relevant in the area of ECT as its history reflects consumer involvement in the conflicts between social, legal and scientific philosophies that dictate its practice (Giles, 2002; McConnell, 1997). In addition, treatment choices are further

influenced by external factors such as health care systems (Kavanagh, 1997). Consequently, knowledge, experience and attitudes are crucial dimensions in ECT-related mental health literacy for consumers, service providers and mental health professionals. These dimensions have been examined in surveys of patients and relatives (Goodman et al., 1999; Kerr, McGrath, O'Kearney, & Price, 1982; Taieb, Cohen, Mazet, & Flament, 2000; Tang, Ungvari, & Chan, 2002; Walter, Koster, & Rey, 1999a; 1999b) and the public (Santa Maria, Boumeister, & Gouvier, 1998).

Knowledge and Attitudes

Eliciting the views of patients has been a relatively new phenomenon in mental health research and is largely driven by surveys on satisfaction of services received (Williams & Wilkinson, 1995). From another perspective, over two decades ago, Allchin (1982) reflected on the reluctance of psychiatrists to explore the *experiences* of their patients undergoing psychiatric treatment. Exploration of these experiences, undeniably, yields an insightful and richer perspective (Barrett, 2001; Goodwin, Holmes, Newnes, & Waltho, 1999; Letendre, 1997; Miedema & Stoppard, 1994; Rogers, Pilgrim & Lacey, 1993). For example, the practice of ECT has an extensive body of literature with relatively fewer studies examining the patients' experience of undergoing ECT. When examined, the focus is primarily on patients' views on treatment outcome (Wheeldon, Robertson, Eagles, & Reid, 1999), acceptance of ECT (Tang et al., 2002) and satisfaction with ECT (Goodman et al., 1999). Less publicised, the psychological aspects of undergoing ECT are largely under-explored but from a therapeutic perspective, highly relevant (Coelho & Baldwin, 1999b; Johnstone, 1999; Warren, 1988). When examined, studies illuminate the experience of undergoing ECT for patients and the influence of the experience on patients' relationships. For example, Donahue (2000) recounts her lack of knowledge about the side effects of ECT and the subsequent effect of this on her life and relationships and urges more vigorous reporting of these issues. Drawing on her own social work experience with ECT patients, Katz (1992) confirms the need for supportive therapy for a range of psychosocial issues confronting patients on discharge.

Experience of ECT, either through undergoing the procedure, having a family member undergo the procedure or working with people who undergo the procedure, suggests knowledge and/or experience influences attitudes (Clothier et al., 2000; Janicak, et al., 1985; Kerr et al., 1982; Gass, 1998; Ghaziuddin et al., 2001; Taieb, et al., 2001; Walter, et al., 1999a; 1999b). One of the dominant attitudes associated

with ECT is related to the psychological outcomes of undergoing the procedure, namely fear. Although ECT advocate assert fear of undergoing ECT is reinforced by popular media (Fink, 1999), eye-witness accounts of the first experiment carried out by Cerletti and his colleagues in 1938 (Endler & Persad, 1988) confirm fear was a prominent feature in ECT's debut into clinical practice and, despite modifications to administration, continues to be experienced by patients. Contemporary studies of consumers report a high incidence of fear (Barrett, 2001; Coelho & Baldwin, 1999b; Goodman, et al., 1999; Johnstone, 1999; Taieb, et al., 2001; Walter et al., 1999a; Warren, 1988). Surveys involving experiences of ECT patients, their family and visitors report, fear, although prevalent, is lessened when information about the procedure has been provided (Goodman, et al., 1999; Kerr, et al., 1982; Taieb, et al., 2001; Walter, et al., 1997b).

Although supporters of ECT practice suggest media have played a considerable role in promoting negative reactions (Fink, 1997; Kerr et al., 1982; Salzman, 1977; Walter et al., 2002), historical characteristics of ECT (namely, mode of treatment and side effects) have sustained enduring themes of conflict. This is particularly evident within medical and non-medical disciplines (Baldwin & Jones, 1996; Breeding, 2000; Breggin, 1998; Freidberg, 1976; Youssef & Youssef, 1999) and the wider community (Cameron, 1994; Frank, 1994).

Rationale for the Study

Experience of working in an ECT environment or with patients who have undergone ECT is reported to increase knowledge and influence attitudes of mental health professionals (Gass, 1998; Janicak et al., 1985). However, previous studies involving mental health professionals have failed to define the concept of knowledge. This is a particularly significant oversight, as, with an unknown mechanism of action, Salzman (1998) highlights ECT is an empirical intervention, and subject to new findings.

As well, few surveys of mental health professionals have included psychologists in the examination of their knowledge and attitudes towards ECT. When examined, psychologists' knowledge about ECT is reported to be limited (Ghaziuddin et al., 2001; Janicak et al., 1985; Lutchman et al., 2001). This is a valid concern as even though ECT is primarily a psychiatric intervention, knowledge about the procedure has particular relevance for psychologists. For example, well-documented side effects of ECT include memory loss (Lisanby, Maddox, Prudic,

Devanand, & Sackeim, 2000; Squire & Slater, 1978), and also include adverse psychological outcomes of fear, helplessness, grief and loss (Coelho & Baldwin, 1999b; Donahue, 2000; Johnstone, 1999; Lawrence, 1998, Moyle, 1997; Rogers et al., 1993; Warren, 1988). Knowledge of these side effects (or lack thereof) has direct implications for psychologists, who may at some point in their clinical practice encounter clients who have undergone ECT.

In the absence of a study assessing the knowledge of, and attitudes towards, ECT of clinical psychologists in Western Australia, the present study uses a newly developed scale constructed from evidence-based literature on ECT. The underlying purpose of this study suggests that given the nature of side effects that affect memory and reported adverse psychological outcomes, knowledge deficits may impinge on appropriately meeting the needs of individuals who have undergone ECT. Therefore, in keeping with the ethos of mental health literacy this study is apposite and warranted.

In order to provide a framework for this study and to understand contemporary findings in the area of ECT, it is necessary to provide a historical background by outlining trends in psychiatric practice, technical aspects of ECT and social influences on the practice of ECT. Drawing on this history, Chapter Two brings the practice of ECT into the 21st century and explores the unavoidable influences of the past in an attempt to set a backdrop for contemporary views and attitudes. These views have added an important dimension to the literature as they form the basis of Chapter Three, which focuses on studies that have examined knowledge of, and attitudes towards, ECT in mental health professionals, patients and the public. Addressing deficits in previous surveys, in particular, failure to critically appraise the evidence-base and consult a wider range of literature, Chapters Four and Five focus on the development of the questionnaire used in this study. Reviews in these chapters will cover literature primarily in the domains of efficacy and safety of ECT. The pilot study is presented in Chapter Six followed by Chapter Seven, which contains the methodology and results of the major study. Discussion of the results, as well as conclusions and future directions, will be undertaken in Chapter Eight.

CHAPTER TWO

Sartorius (1997) stresses two of the major challenges psychiatry continues to face centre on the proof that psychiatric treatments are effective and perhaps more importantly, socially accepted. Therefore, several factors are important when considering the historical background of ECT and the influence of that background on contemporary knowledge and attitudes. Most salient of these influences are shifts in understanding the aetiology and consequently treatment of mental illness. Also important within this framework of understanding is the origin of ECT, technical aspects and side effects of the procedure, as well as the social influences on ECT practice. Together, as well as independently, each factor has played an important role in the knowledge of, and attitudes towards, ECT by people within the psychiatric and lay communities. The following is an exploration of these and other psychiatric issues of historical relevance. These issues are firmly embedded in the social influences of their time and contribute towards contemporary attitudes and understandings of physical treatments in psychiatry over the past several decades. In other words, these issues have shaped, and continue to shape, the history of ECT practice and are presented here in a chronological and narrative framework.

Aetiology and Treatment of Mental Illness – A Historical Overview

Sobel (1995) states contemporary understanding of the full range of human behaviours is enhanced when the interrelationships between biological, social and psychological states are considered contributory to a complex equation. This was not always the case. During the first half of the 20th century, the divide between the organic and psychological approaches grew wider with an increase in the knowledge of some mental disorders through studies of hormonal and metabolic imbalances (Trimble, 1996). When psychiatry found a niche in the discipline of medicine, understanding of psychiatric disorders within a medical model encouraged the use of biological treatments and somatic therapies such as ECT (Beer et al., 2000).

Trends in psychiatric practice have seen the promotion of biological, psychodynamic, organic and biopsychosocial theories with each theory finding dominance in history at some point in time. Nonetheless, the issue of psychiatric *treatment* has, and continues to be, largely dictated by society's perspective on the nature of psychiatric illness (Shorter, 1997) and undeniably, socio-political influences have played an important role in the definition of psychiatric disorders and their treatments (Caplan, 1995; Trimble, 1996; Wyatt & Livson, 1994). In

particular, sparking debate in the 1950s and 1960s was the "... dilemma of custodialism versus psychoanalysis ... " (Shorter, 1997, p. 229). This dilemma played out in the processes involved in the movement of deinstitutionalisation where individuals who were once long-term residents in mental institutions were discharged and generally cared for within the community and/or for relatively brief periods in a hospital environment. This change in service provision coupled with the advent of psychotropic medications influenced treatment modalities to a significant extent (Endler & Persad, 1988) and hastened the demise of the once popular physical and convulsive therapies that were largely conducted within institutions (Braslow, 1999).

Typical of the cyclic nature of psychiatric trends and encouraged by the US Congress ascribing the 1990s as the *decade of the brain* (Jones & Mendell, 1999), the biological approach to treating mental illness has found new ground. It is a ground that finds a firmer base in the links between *mind and brain* being forged in psychiatric neurosciences (Andreasen, 1997). Linked with the above trends, the inappropriateness of psychotropic medications in specific populations once again promotes the viability of physical treatments for pregnant women (Bhatia, Baldwin, & Bhatia, 1999), children (Cizadlo & Wheaton, 1995; Hedge, Srinath, Sheshadri, Girimaji, & Gangadhar, 1997), adolescents (Cohen, Flament, Taieb, Thompson, & Basquin, 2000) and elderly people (Tew et al., 1999).

Origins of ECT

Electrotherapy (non-convulsive) goes back several centuries when Scribonius Largus (c. A.D. 47) treated headaches with an electric eel (Alexander & Selesnick, 1967). Later, developments in electrical science in the late 19th century encouraged the use of electricity for a variety of medical and psychiatric conditions but failures to replicate proponents' reported success rates diminished the initial enthusiasm for this type of treatment, and the use of electricity waned until the 1930s (Beveridge & Renvoize, 1988) when several links between medical conditions and psychopathology were consolidated (Trimble, 1996). These links paved the way for the development of four major somatotherapies in the treatment of mental illness during the period 1933-1938 (Braslow, 1999). The following section provides a concise description of the convulsive therapies that pre-date ECT. As psychosurgery belongs to the same era of somatic psychiatric therapies, a relatively brief focus on surgical intervention in the treatment of mental illness is also covered.

Somatic Therapies Pre-dating ECT

Based on a hypothesis that reducing blood sugar brought about better equilibrium in the brain, Manfred Sakel's insulin coma therapy for schizophrenia, also referred to as insulin shock therapy, induced coma of between 30 to 50 hours' duration (Alexander & Selesnick, 1967). The therapy brought patients to the brink of death and they required intensive nursing to avoid irreversible coma (Braslow, 1999), and prevent collapse of the circulatory and respiratory systems (Alexander & Selesnick, 1967). The therapy also produced unwanted convulsions following insulin injections (Endler & Persad, 1988). The behavioural outcome of insulin shock therapy, from a psychodynamic perspective, it was proposed, reduced the individual to a regressed state thereby facilitating rapport as the patient became more dependent on the physician and nursing staff (Alexander & Selesnick, 1967). Despite the limitations of a resource intensive and dangerous therapy, by 1941 75% of hospitals in the USA were using insulin coma therapy (Braslow, 1999).

The unconfirmed hypothesis of Ladislas Von Meduna which was based on his autopsy findings of similar deficits in the glial structure of the brain in patients with epilepsy and schizophrenia, introduced an alternate chemical convulsive therapy to psychiatric practice; initially with the use of injections of camphor in oil, and then later, using metrazol (Alexander & Selesnick, 1967). Meduna promoted the therapy for its relative simplicity and speed, claiming 60-80 patients could be given the chemical in a morning with only one doctor and two or three nurses in attendance (Meduna, 1938 cited in Frank, 1978). But in practice, the reality did not match claims made by him. Managing the distress of the patient while waiting for the chemical to bring about the seizure, was soon seen as a major limitation of this treatment. From the patient's perceptive it was a brutal experience. Notwithstanding the fractures, the painful injections generated fear and induced a high state of anxiety during treatment and/or in anticipation of another injection (Shorter, 1997). Criticisms about the convulsive therapies were being voiced towards the end of the 1940s and William Menninger (1938), President of the APA between 1948 and 1949 acknowledged convulsive therapies brought about "... psychological insult ... to the patient ..." but justified the practice claiming they facilitated psychotherapy as "... some patients showed greater friendliness, accessibility, and willingness to cooperate." (Menninger, 1938 cited in Frank, 1978, p. 11).

Finally, Egas Moniz's psychosurgery consisted of prefrontal lobotomy based on his assumption that altering the frontal lobes of the patient disrupted obsessive and melancholic behaviours (Alexander & Selesnick, 1967). Nonetheless, critics expressed their views vigorously, and rightly so, as Alexander and Selesnick (1967) explain, in excising the frontal lobes, "... an area essential to the human being – his [sic] personality – is forever destroyed ..." (p. 285). Although radical, the surgery, once accepted, became routine practice for supporters of the procedure (Swayze, 1995) with an increase in lobotomies in the USA from 700 between 1940-44, to nearly 20 000 by 1951 (Braslow, 1999).

The First ECT

In the mid-1930s, influenced by the convulsive therapies of his time and believing (wrongly, as did his contemporary Meduna) in the biological antagonism between epilepsy and schizophrenia, Cerletti and his Italian colleagues commenced a series of experiments applying electricity to animals to bring about epileptic seizures (Endler & Persad, 1988). Experimenting firstly with dogs, they adjusted the electrodes to either side of the cranium (instead of the fatal combination of mouth and anus) and produced desired results (Endler & Persad, 1988). Observations of pigs being stunned prior to slaughter encouraged the team's enthusiasm and established the electrical dosage to elicit seizures without fatality (Alexander & Selesnick, 1967). Extending the team's new findings to humans came soon after with the experimental session on a 39-year-old engineer who was found wandering the streets of Milan, Italy. Presenting with incoherence, passivity, disorientation and hallucinations, the patient was diagnosed with schizophrenia and as Endler and Persad (1988) state, "... this case was perfect for the test ..." (p. 14). A vivid account of the first ECT session is crucial in understanding the perpetuation of attitudes (positive and negative) to the procedure. Using anecdotes and the eye-witness account of one of the first ECT doctors, the following is a summary of what took place with the first human subject referred to as S.E., as reconstructed by Persad and Endler (1988).

Describing the ECT room, Endler and Persad (1988) write "... on the second floor of the clinic there was a large room ... and since it was out of the way it was felt to be a safe place for the sessions, away from curious and prying eyes ... [and] ... present for the first electroconvulsive treatment were the neuropsychiatrists Cerletti, Bini, Felici, and Acconero; Challiol, an eminent neurologist and deputy

director of the Clinic ..." [along with other hospital personnel] (p. 15). Anxiety must have been high for the team as "... Challiol often ran out into the corridor to make certain that no one was there who might disturb the proceedings ..." (p. 15). The first few attempts were unsuccessful in inducing a seizure so the voltage was increased to 110 volts and two-tenths of a second, the patient turned purple, convulsed and the team achieved the results they desired (Endler & Persad, 1988). Undergoing another 11 sessions, S.E. was discharged into the care of his wife. By all accounts the procedure was claimed a success. However, the patient's wife "... reported that three months after his return home he resumed his jealous attitude towards her, and that sometimes during the night, he would speak as though in answer to voices ..." (Cerletti, 1956, p. 94, cited in Endler & Persad, 1988, p. 19).

S.E.'s relapse was considered secondary to what the physicians had achieved, as two factors were established in the first ECT session on a human. Firstly, safety had been demonstrated - the patient did not die. Cerletti is reported to have stated, "That we can cause epileptic attacks in humans by means of electrical currents, without any danger, seems to be an accepted fact ..." (Accornero, 1970, p. 48 cited in Endler & Persad, 1988). Secondly, from the clinician's perspective, therapeutic gains had been achieved; the clinicians found the patient was symptom-free and discharged him from hospital. Following presentation of the team's findings at the Medical Academy in Rome in 1938 and subsequent publications in journals, ECT soon gained popularity over other somatic therapies such as chemical convulsive therapies and psychosurgery (Endler & Persad, 1988).

The Expansion of ECT Practice

Just prior to World War II with the immigration of Europeans to the USA, along with Cerletti's reported successes in Italy, the export of ECT to the USA was inevitably speedy (Alexander & Selesnick, 1967). As to who administered the first ECT in clinical practice in the USA remains in dispute, but Douglas Goldman demonstrated the procedure at the annual meeting of the APA in 1940 in Cincinnati (Endler & Persad, 1988). However, two major obstacles faced the introduction of ECT in clinical practice in the USA. Firstly, there was a clash between the psychodynamic and the biological theories to explain mental illness. This clash left therapists with limited options, as Shorter (1997) explains, "... one would train either to be a psychotherapist, with a large and lucrative community practice, or a poorly paid mental-hospital psychiatrist who was able to do ECT ..." (p. 222). Secondly,

from a socio-cultural perspective, in a country that created the electric chair for capital punishment, the use of electricity for therapeutic purposes in mental illness met with some reservations (Endler & Persad, 1988). With these reservations soon dispensed with, the Electroshock Research Association was established in the USA in 1944 with the Association encouraging extensive research and publication in the area (Pallanti, 1999).

Approximately two years after the first ECT session, Lothar Kalinowky and his colleagues built their own ECT machine and commenced their practice at the New York State Psychiatric Institute in the USA (Shorter, 1997). ECT was soon accepted with eagerness and within three years after its introduction to clinical practice in Italy, 42% of private and public hospitals in the USA were using ECT (Braslow, 1999). This enthusiasm was partly due to practical reasons, as in comparison to chemical convulsive therapies, "... one no longer had to chase patients down to inject them with Metrazol ..." (Shorter, 1997, p. 221). Alexander and Selesnick (1967) see the advantage from a clinical perspective stating the loss of consciousness following a shock made patients less "... resistance to further treatment [as it was] ... not connected with a recollection of physical trauma ..." (p. 282).

With little known about the mechanism of action, the somatic therapies flourished during the 1930s and 1940s; decades psychiatrist J. Dennis Freund refers to as *the golden age of psychiatry* (Freund, 1991). But ECT practice in these years was conducted under what could best be regarded as less than empirical conditions (Shorter, 1997). Referring to this period, Shorter (1997) notes, "... eager to ascertain their priority in history and unaffected as yet by the rigorous statistical tests and follow-up studies that would later be demanded ..." (p. 226), authors promoted these therapies through case studies as treatments of choice for a range of disorders (Shorter, 1997).

ECT was also used as a tool to subdue unmanageable patients who were sometimes subjected to "... the "blitz" method ..." of ECT every four hours (Braslow, 1999, p. 2). Treating physicians recorded this type of behaviour modification, therapeutic (Braslow, 1999). Reflecting on the popularity of ECT during those early decades, Endler & Persad (1988) write, "If manic depression (affective disorder) is the common cold of the mental illnesses, then one might say that ECT came to be considered the 'chicken soup' of remedies." (p. 24). An example of physician preference is evident in J. Dennis Freund's disclosure that he

administered and/or supervised at least 50 000 ECT sessions during his career, "... because I headed my own hospital and was free to authorize their applications ..." (Freund, 1991, p. 11). The popularity of ECT among psychiatrists during these years soon met with cynicism from within the discipline. In spite of his organic orientation and understanding of mental illness, Louis Casamajor, a senior psychiatrist in New York, noted the times with some cynicism saying "... one may question whether shock treatments do any good to the patients but there can be no doubt that they have done an enormous amount of good to psychiatry ..." (Casamajor, 1943, p. 607, cited in Shorter, 1991, p. 224). It was an era prior to informed consent and the apparent enthusiasm among ECT practitioners was soon dampened by concerns about the side effects of ECT and subsequent social influences of the time demanding greater accountability from mental health authorities (Giles, 2002).

Technical Aspects and Side Effects of ECT

The original ECT machine devised by Cerletti and Bini was comparatively crude in its operation with adjustment of the voltage and time determining the current (Endler & Persad, 1988). Since 1938 there have been many changes to the machine as well as technique. Nonetheless, as a device used in medical treatment, safety and efficacy of ECT machines come under the responsibility of the Food and Drug Administration (FDA) in the USA. Categorised as Class III, meaning ECT is still considered an empirical procedure and falls into the highest risk category by the FDA, ECT devices are subjected to scrutiny under legislation in the USA (Leinbaugh, 2001).

Fractures of the spinal column and dislocation of the larger bones were the most common side effects of ECT in the early years (Endler & Persad, 1988). However, following serendipitous collaboration between clinicians Walter Freeman and Abram Bennett in the late 1930s, fractures were reduced by the use of curare as a muscle relaxant (Shorter, 1997). Discarded for its involvement in cardiac complications, curare was later replaced with succinylcholine. Soon after drugs for general anaesthesia followed and the protocol using muscle relaxants and general anaesthesia became known as modified ECT (Shorter, 1997).

However, despite the technical modifications to ECT administration, unwanted fractures continue to be reported in contemporary practice (Baethge & Bschor, 2003; Nott, & Watts, 1999; Sarpel, Togrul, Herdem, Tan, & Baytok, 1996). ECT also produces a range of physical, cognitive and psychological side effects. These range

from headaches (Walter, Koster & Rey, 1999a) and falls (de Carle & Kohn, 2000), and cardiac complications during ECT, for patients with pre-existing heart problems (Zielinski, Roose, Devanand, Woodring & Sackeim, 1993). However, for 60 years cognitive side effects remain an undeniable challenge for all age groups, with the nature and extent of the loss coming under intense debate. Cognitive side effects vary in severity and chronicity (Datto, 2000) with the degree of cognitive impairment associated with technicalities of the procedure, for example, placement of electrodes and/or stimulus intensity (Ottoson, 1985; UK ECT Group, 2003; Weiner, 2000). With differing views on the degree of memory loss, it is nonetheless acknowledged that ECT recipients suffer some permanent memory loss (Enns & Reiss, 2003; Weiner, 2000). This acknowledgment has invited criticisms from professionals who label these iatrogenic side effects brain damage, and call for a ban on the procedure (Breeding, 2000; Breggin, 1998; Freidberg, 1977; Youssef & Youssef, 1999).

ECT also impacts on a psychological level (Coelho & Baldwin, 1999a; Donahue, 2000; Johnstone, 1999; Warren, 1988). Fear is a universal emotion experienced by individuals who have undergone ECT (Coelho & Baldwin, 1999a; Johnstone, 1999; Kerr et al., 1982; Rey & Walter, 1997; Taieb et al., 2001; Warren, 1988) and was often regarded, in the early years of practice, as having therapeutic value (Alexander & Selesnick, 1967). For example, psychiatrist Freund (1991) recalls an incident with a 30 year old patient who had been raped in her youth responding unusually to treatment and recalls his unsuspecting assistant's perceptive comment, "... she behaves as if she is defending herself against a rape attack ..." (p. 19). Indeed, analogies have been drawn between undergoing ECT and feeling assaulted by patients who have undergone the procedure (Walter et al., 1997). Resultant long-term psychological sequelae for some include feelings of helplessness and anger (Coelho & Baldwin, 1999a).

The psychological side effects of ECT are not included in the guidelines suggested by the APA (1990), but informed consent is described within the parameters of treatment mode and potential medical complications. In studies that have examined the experiences of ECT recipients, a consistent theme is related to patients reporting lack of information being provided to them, prior to undergoing ECT (Wheeldon, et al., 1999). Forgetfulness is related to memory deficits following ECT, nonetheless, the necessity to keep the patient informed about the procedure at each stage of the course is emphasised by Wheeldon et al. (1999).

Fink (1999) argues negative attitudes are unjustly influenced by the past and suggests that unmodified ECT generated more memory loss than modified ECT "... so much so that memory loss came to be seen as an essential part of the treatment. It was this effect that remained in the public's mind as the main outcome of the treatment." (p. 93). Yet claims about relative safety of modified ECT by Fink (1999) are not supported by contemporary research findings. Breggin (1998) claims the protocol of muscle relaxants and general anaesthetic increases seizure thresholds, which is known to cause greater cognitive impairment (Kellner et al., 1997). Caution is also echoed by professionals in the discipline of anaesthetics who highlight psychiatric medications are often used concurrently during a course of ECT and are known to interfere with the process of generating a seizure (Naguib & Koorn, 2002). In addition, on-going concerns are supported in the studies that report technical aspects of electrode placement (Ottoson, 1985), frequency of ECT sessions (Shapira et al., 1998) and stimulus intensity (McCall, Reboussin, Weiner, & Sackeim, 2000; McElhiney et al., 1995) contribute towards the degree of cognitive impairment following ECT.

Social Influences on the Practice of ECT

The issue of valid and informed consent prior to undergoing ECT has been the subject of debate in various forums. When argued from the perspective that the literature on safety and efficacy of ECT is equivocal, dissension is expressed within the clinical community against the backdrop of professional ethics (Baldwin & Barker, 1997; Breggin, 1998; Clarke, 1995; Dawson, 1997; Oxlad & Baldwin, 1996; Youssef & Youssef, 1999). The APA (1990) states memory loss is generally transient; patients claim otherwise (Cohen, et al., 2000; Donahue, 2000; Frank, 1994; Freeman & Kendall, 1980). It has also been argued that iatrogenically acquired memory loss, without due regard, is a gross violation of an individual's human rights (Frank, 1994).

Anti-Psychiatry

The anti-psychiatry movement was established in the early 1960s, fuelled by the socio-political influences of deinstitutionalisation (Shorter, 1997). The movement's agenda gained momentum through the efforts of organised groups such as the Citizens Commission on Human Rights (CCHR) (run under the auspices of the Church of Scientiology), patients' rights groups, and psychiatrists opposing the use of ECT (Shorter, 1997). Attempting to enforce bans, the anti-psychiatry movement

has been credited with changing legislation and ECT practice trends across USA (Shorter, 1997), as well as exposing facts and statistics on the ECT industry. For example, Jan Eastgate, President of the CHHR reports ECT can increase a psychiatrist's annual income by approximately US$27,000 and brings in approximately US$3 billion per annum for the psychiatric industry (Eastgate, 1998). She also reports that two prominent ECT advocates, Max Fink and Richard Abrams, have a financial stake in the ECT business from generating a journal exclusively for the practice of ECT, participating in video productions promoting ECT and having substantial financial interests in the making of ECT devices (Eastgate, 1998).

Informative for exposing details of the ECT industry not generally disclosed in mainstream literature, the CCHR is the proverbial thorn in the side of psychiatry. With offices in 40 states in the USA and chapters in 30 countries worldwide, the CCHR has effected changes in ECT practice globally (Smith & Nalpas, 2001). A recent example is the ban of ECT being practised on children, the elderly and pregnant women in Piedmont, Italy that was brought about, reportedly, by the efforts of the CCHR (Smith & Nalpas, 2001). It would be reasonable to say the anti-psychiatry movement, collectively, has made some significant changes from restrictions on practice via legislative avenues to training issues for junior psychiatrists (Shorter, 1997). Essentially, it is argued, the latter translates into a scenario where the reduction in ECT practice through legislative restrictions leads to deficits in the curricula of ECT training for junior psychiatrists (Fink, 1999). Also, reflecting on the influence of legislative bodies on the practice of ECT, prompts Fink (1999) to comment that this inevitably generates inferences and sends a signal to the community, "ECT ... must be dangerous." (p. 103).

Legislation and ECT

From a medico-legal perspective, often regarded as a life-saving intervention, ECT to some extent comes under legal processes that dictate its practice (Durham, 1988). In Australia, prior to 1977, mental health statutes in the states and territories did not specifically mention ECT (Edwards & Flaherty, 1978). However, bringing ECT under the governance of state legislation serves a dual purpose, on one hand with patients' rights being protected (Kitamura, 2000) and on the other, resulting in the practice of ECT being monitored (Finch et al., 1999). Indeed, of historical relevance, few other psychiatric interventions have had the prominence in the legislative arena as that of ECT (Fink, 1999). For example, in 1967 Utah was the

first state to pass legislation to regulate ECT practice and by 1983, 26 states in the USA had some form of governance over ECT (Shorter, 1997). The impact of legislation is seen in the early 1970s, when ECT practice was abolished in California, USA; the legislation was later over turned in court (Khan et al., 2002) but the practice in California remains restricted (Fink, 1999).

Internationally, Abrams (2000) notes with irony, the severe restrictions may force ECT to become obsolete in Italy, the country of its origin. Similarly, ECT is rarely used in Hungary, where chemical convulsive therapy originated (Tringer, 1999). Khan et al. (2002) report ECT is seen as a tool of state control in Central and South American countries. Not limited to Central and South American countries, the use of ECT in state sanctioned abuse through CIA sponsored experiments some years ago, has left a lasting legacy in the USA (Eastgate, 1998).

Professional Response to Legislative Actions

Responding to the intense scrutiny on the practice of ECT by patients' rights groups and the subsequent legislative restrictions, the APA established the Task Force on Electroconvulsive Therapy in 1974 (Fink, 1999). The formation of the Task Force enabled members to examine literature and receive input from patients and professionals from diverse fields such as psychiatry, anaesthetics, nursing, and psychology; individual experts in psychiatry, neurology, psychology, anaesthetics, cardiology, obstetrics, medical ethics and law; regulatory bodies such as the Joint Commission on Accreditation of Healthcare Organizations and the FDA; as well as lay mental health organisations (APA, 1990). Contributions of individuals and from these sources have formed the basis for the generation of a set of standards that were subsequently updated in 1988 and 1990 (APA, 1990). The guidelines proposed by the APA in 1988 and 1990 are comprehensive, covering areas such as education, training, indications, contraindications, consent and technique.

Similarly, responding to the disquiet expressed by mental health consumers and some professionals about ECT, the United States National Institute of Health and Mental Health (NIMH) held a Consensus Conference on Electroconvulsive Therapy in 1985 (Bower, 1985). Cautious in its approval, the NIMH endorsed the use of ECT in a narrow range of psychiatric disorders and called for a national survey to examine the usage patterns and quality of ECT practice in the USA (Bower, 1985). Eighteen years after the recommendations of the NIMH, clinical audits are yet to be undertaken as comprehensively in the USA, as they have been in the UK (Duffett &

Lelliott, 1998; Pippard, 1982, 1992; Pippard & Ellam, 1981). For example, when conducted, surveys have indicated significant variation in practice (Duffett & Lelliott, 1998; Latey & Fahey, 1988) and audits of the procedure have reported alarmingly poor clinical practice (Duffett & Lelliott, 1998; Pippard, 1992; Pippard & Ellam, 1981). As well, surveys have found negligible supervision of junior doctors by consultants (Chung et al., 2003; Halliday & Johnson, 1995; Henderson et al., 1993).

Summary

In summarising the historical background of the practice of ECT it is evident that shifts in understanding the aetiology of psychiatric disorders have seen the promotion and practice of different approaches to treating mental illness (Alexander & Selesnick, 1967; Shorter, 1997). In the 1930s, arising from biological explanations for mental disorders, several convulsive therapies and psychosurgery were dominant in psychiatric practice (Braslow, 1999) and emanating from that era, ECT is one of the most enduring somatic therapies (Endler & Persad, 1988). Equally enduring is the history of side effects, which has maintained the controversy that has plagued ECT's clinical status (Endler & Persad, 1988; Fink, 1999; Shorter, 1997). Ultimately, several factors ranging from biological theories to social influences have shaped the history of ECT practice (Shorter, 1997).

Finding a rationale within the framework of an unconfirmed hypothesis of the biological antagonism between epilepsy and schizophrenia, ECT has been widely practiced for over 60 years (Endler & Persad, 1988). With no contraindications cautioned by the APA, diagnostic indicators have now expanded to include a wide range of psychiatric and non-psychiatric disorders (APA, 1990). ECT is also used as an intervention in achieving social (behavioural) control (Hirose et al., 2001; Grant & Mohan, 2001; Roccaforte et al., 2000). State sanctioned psychiatric abuses also involve social control (Khan et al., 2001). Endler and Persad (1988) and Fink (1999) claim modified ECT is safer. Contemporary literature indicates this is not so, with fractures, the trauma severity of which are usually seen in major accidents, associated with the use of ECT still being reported (Sarpel et al., 1996). As well, anaesthetic protocol increases seizure thresholds (Breggin, 1999) and affects cognitive functioning (Kellner et al., 1997). And, problems related to memory loss generate controversy about issues such as informed consent (Salzman, 1997).

ECT comes under scrutiny from a broad section of society, that is, by concerned professionals from varied disciplines, mental health consumers and advocacy groups. In the socio-legal arena, legislative practices and other governances along with the efforts of vocal anti-ECT lobbyists are social influences that have served a dual purpose with their concerted efforts keeping ECT in the limelight for several decades, while concomitantly restricting and/or banning the practice in different parts of the world (Fink, 1999). However, reports of inconsistent support for ECT within psychiatry coupled with reports of unsatisfactory clinical practice validate the calls for closer scrutiny of ECT and prompt British psychiatrists to comment, "... it is not ECT which has brought psychiatry into dispute. Psychiatry has done just that for ECT..." (Pippard & Ellam, 1981, p. 108, cited in Fink, 1999, p. 101). Firstly, this scenario raises questions whether clinicians have sufficient up-to-date knowledge about ECT. Secondly, whether this knowledge base extends to mental health professionals and finally, whether or not the public has sufficient knowledge to make informed choices. Exploration of these issues is the focus of the following chapter.

CHAPTER THREE

Continued interest in the practice of ECT and the professional scrutiny it has been subjected to since the 1980s set a historical point of reference for the examination of relevant surveys on knowledge of and attitudes towards ECT, which is the focus of this chapter. However, given the breadth of information in the area, an exhaustive examination of the literature is not possible, but noted.

Psychiatrists' Knowledge of, and Attitudes Towards, ECT

Uneven trends in practice have been a consistent finding in surveys of psychiatrists and are evident on a global scale. For example, McCall, Leigh and Dickerson (2001) found, although diagnosis was highly associated with whether or not a patient underwent ECT, the ECT recommendation was highly associated with the consulting doctor's eagerness towards the procedure. This scenario suggests a range of influences are involved in disparate practice trends. In the USA, female psychiatrists are only one-third as likely to perform ECT than male counterparts (Hermann et al., 1998). Attitudes of psychiatrists towards ECT in divisive views were found some years ago in Western Australia (Bucens et al., 1986), and more recently in the UK (Duffett & Lelliot, 1998) and Cuba (Collinson & Turner, 2002). These trends suggest widespread professional ambivalence about ECT has been an enduring feature of practice over the years. In addition, the influence of internal (attitudes) and external (state legislation) factors on practice has also been reported (Finch et al., 1999).

Psychiatrists' attitudes towards ECT have also been assessed using methods that target their personal preferences and views. Firstly, epidemiological studies indicate psychiatrists who are trained in an era where biological understandings of mental disorders are dominant are more likely to perform ECT (Hermann et al., 1998). Such a trend is seen in the UK where the decline of ECT practice was most noticeable during the 1970s (Kemsley, 2003). Secondly, social attitudes are deemed to be important and studies have examined whether or not psychiatrists are influenced by the public's attitudes towards ECT (Bucens et al., 1986; Henderson et al., 1993). Thirdly, with the use of clinical vignettes, studies have examined whether psychiatrists would be willing to undergo ECT if the clinical indicators were appropriate and whether they would choose ECT as a first line treatment option over medications or psychotherapy (Janicak et al., 1985). As well, their attitudes have been explored whether or not they would recommend ECT to a family member

(Bucens et al., 1986). And, finally psychiatrists' attitudes towards ECT have been examined in special populations for example, children (Ghaziuddin et al., 2001; Walter, Rey, & Starling, 1997) and elderly people (Benbow, 1991).

Training and Education

One of the key factors in maintaining high standards in an ECT clinic is the expertise an ECT consultant brings to the team (Russell, 2001). However, clinical audits in the United Kingdom (Duffett & Lelliott, 1998; Pippard, 1992; Pippard & Ellam, 1982) and Hong Kong (Chung, Ng, Yiu, & Cheung, 2003) have shown deficits in major areas of ECT practice. One of the concerns highlighted in these audits was the prescription of ECT by consultants but administration of the procedure by junior doctors. This is a clinical situation that prevailed 20 years earlier in the UK (Pippard & Ellam, 1981), approximately 17 years ago in Western Australia (Bucens et al., 1986) and found more recently in a regional study in Scotland (Henderson, et al., 1993), a national study in Australia (Halliday & Johnson, 1995) and in Hong Kong (Chung et al., 2003). As theoretical and practical learning forms an integral part of acquiring knowledge of ECT (Hermann et al., 1998), some studies have focused on the experience of practitioners and the training they undergo. Findings in Australia and New Zealand have attracted criticism (Halliday & Johnson, 1995), as have findings from psychiatrists in Canada (Yuzda et al., 2002); and in the latter, little improvement has been reported since deficits in education and training were noted in 1989. A similar scenario exists in the UK where, despite the most comprehensive clinical audits undertaken in the past 25 years, an alarming 70% of ECT clinics in the UK are below standard (Wise, 1997) and major concerns continue to be expressed regarding the training and education of ECT practitioners (Herzberg & Paice, 2002). Therefore, surveys of psychiatrists regarding knowledge of, and attitudes towards, ECT are often framed within questions related to administration, safety and adherence to clinical indicators.

Following recommendations made by Pippard (1992), Henderson et al. (1993) surveyed junior doctors in a regional study in Scotland, UK to assess their training, practice and attitudes. Findings of the survey revealed nearly all the doctors (99%) had administered ECT but supervision was extremely poor with 85% reporting they could not recall an ECT session being attended by a consultant. Attitudes were also assessed and a high percentage of respondents (60%) reported encountering opposition from family and friends, 21% from social workers and 16% from nurses,

about their involvement with ECT. Asked whether health care workers should have the right to refuse to participate in the administration of ECT, the respondents were equally divided, with 45% felt they had a right and 41% felt they did not. Across the globe, Halliday and Johnson (1995) surveyed psychiatry registrars in the cities of Sydney and Newcastle in Australia and found most of the respondents (96%) had administered ECT during the time of the survey but reported inadequate supervision. In particular, 75% of respondents reported another registrar supervised their practice and 40% reported they were expected to teach another registrar to give ECT. Of those who were supervised (25%), a majority (62%) reported the consultant was present only at the initial supervisory session. Attitudes were assessed to reflect the respondents' views on the training they received and 60% felt they had not been adequately trained.

ECT Practice – Clinical Indications and Safety

By and large, findings of surveys have indicated psychiatrists' knowledge of ECT is generally closely aligned to professional guidelines for prescription of ECT. For example, Benbow, et al. (1998), in a study of psychiatrists in the north-west of England, reported ECT was most frequently prescribed for subtypes of depression that increase the risk of suicide and those that are detrimental to physical well-being. In Australia, an epidemiological survey of ECT in the state of Victoria using statutory data indicated 75.2% of people treated with ECT had depression and there was a 12 times increased likelihood of ECT for major affective disorders than for substance use, personality disorders, anxiety and somatoform disorders (Wood & Burgess, 2003). Just over a decade earlier, O'Dea et al. (1991) report 63% of patients in Australia and New Zealand were given unilateral ECT with significant differences in mode of administration found in regional areas; overall, bilateral ECT was performed more frequently in Queensland and New Zealand. Attitudes assessed by O'Dea et al. (1991) reflected respondents' understanding of the reported differences in outcomes related to the two modes of ECT administration and 50% of the psychiatrists surveyed felt bilateral was more effective in treating depression. Although bilateral ECT is associated with greater severity of cognitive side effects, assessment of this knowledge (or attitude) was not specifically addressed in the study.

Bucens et al. (1986) found psychiatrists in Western Australia were polarised in attitudes, with non-prescribing psychiatrists commenting ECT "caused brain

damage", and "it was dangerous", or using the analogy of "kicking a broken TV instead of fixing it" (p. 2). Practitioners were overwhelmingly inclined to use an ECT schedule of three times per week. Resonating with findings of later studies in the UK, Australia and New Zealand, the majority of consultants assigned registrars to undertake the task of administering ECT. Major depression with a risk of suicide was the primary indication for ECT followed by major depression unresponsive to medications. In assessing attitudes, 21% reported they were always and 34% were never affected by public attitudes and the majority of psychiatrists (90%) felt the public was inadequately informed. In addition, the majority (79%) reported they would recommend the procedure to family members (Bucens et al., 1986).

Although adherence to clinical indicators is generally in keeping with professional guidelines, ECT practice is highly variable between countries in certain aspects of administration, such as dosage selection (Little, McFarlane, Barton, & Varma, 2002) and contraindications (Benbow, 1991; Strachan, 2001). The latter is a particularly interesting finding in regional studies, for example in New Zealand, where 87% of psychiatrists report knowledge of at least one set of ECT guidelines and consider at least 17 medical conditions as absolute or relative contraindications (Strachan, 2001). But in the UK, divergent views were found with 53% of regional psychiatrists considering age over 90 to be an absolute contraindication (Benbow et al., 1998), compared to 73.5% in a national study (Benbow, 1991).

ECT with children and adolescents is experiencing renewed interest (Walter, Rey, & Mitchell, 1999). Not surprisingly, the views, knowledge and experience of child psychiatrists have been explored in recent years. A survey of child psychiatrists in Australia and New Zealand found 40% of child psychiatrists rate their knowledge of ECT in children and adolescents as nil or negligible (Walter et al, 1997). Of the 52% who rated some knowledge of ECT with young people, 33% stated their knowledge had been extrapolated from their experience with adult clients. A majority (71%) disapproved of using ECT with children and 31% considered ECT to have long-term effects on cognitive functioning (Walter et al., 1997).

Ghaziuddin et al. (2001) surveyed child psychiatrists and psychologists in the USA using the same questionnaire devised by Walter et al. (1997). The survey found a high percentage (69%) of child psychiatrists in the USA worked in adult/child and adolescent practice, yet just over 5% of psychiatrists stated their knowledge of ECT

with young people to be advanced; they were also more likely to regard ECT as a safe treatment and not as a treatment of last resort. Mania, bipolar disorder and major depression were considered appropriate clinical indicators for ECT with young people. Significantly more psychologists stated they had little knowledge of ECT, were significantly less likely to agree with efficacy of ECT with children in depression and bipolar and significantly less likely to agree that ECT was safe with this population. Despite these differences between psychologists and psychiatrists, 68% of psychologists and 72% of the psychiatrists felt ECT should only be used as a treatment of last resort for this population.

At the other end of the age spectrum, Benbow (1991) in a study of old-age psychiatrists in the UK found most psychiatrists (97.6%) reported they would consider ECT for appropriate patients, that is, primarily those with affective disorders. But there was a marked divergence for contraindications with only 33.2% indicating a recent stroke (less than six months) being an absolute contraindication whereas 62.0% found that to be a partial contraindication. Similarly, 24.4% indicating a recent heart attack (less than six months) a contraindication, and 73.7% indicating it was a partial contraindication.

Finch et al. (1999) found 91% of hospital-based psychiatrists in Texas, USA had received ECT training, 85% had administered ECT and none felt ECT was "unacceptably dangerous" (p. 265). A majority thought ECT should be available to their patients and, if clinically indicated, for themselves and/or family members. With general agreement on safety as well as perceived utility of ECT for affective disorder and catatonia, of note, only four patients were referred for ECT in the previous six months, eight in the preceding year and only 16 in the previous two years. The restrictive laws of Texas on the practice of ECT were cited as determinants influencing referrals for ECT.

Mental Health Professionals' Knowledge of, and Attitudes Towards, ECT

Research suggests mental health professionals who have a biologically based training in mental health disorders are more positive towards ECT than those professionals who do not share the same clinical orientation (Ghaziuddin et al., 2001; Janicak et al., 1985). For example, Janicak et al. (1985) devised a Scale of ECT Knowledge and Attitudes using a 12-item questionnaire and assessed mental health professionals (physicians, nurses, psychologists, social workers and students of these disciplines). The authors report increased professional experience was significantly

associated with increased knowledge, with psychiatrists and nurses having the highest scores, followed by psychologists, and social workers rating the lowest. The interaction between profession and experience with knowledge was significant for all groups except psychologists.

Janicak et al. (1985) speculate the results related to psychologists are suggestive of lack of exposure to ECT or a preference towards non-biological models of treatment. However, overall, if faced with a scenario where they were extremely depressed (actively suicidal), all respondents were more likely to consider ECT than if they were very depressed (suicidal thoughts). Interestingly, with the exception of physicians, if very depressed, nurses, psychologists and social workers who had more than three years of experience of working in an ECT environment were more reluctant to undergo ECT than those with less than three years' experience. Despite the disparity of acceptance towards ECT between disciplines, in the two categories of depression, psychologists with more than three years experience, when compared to other disciplines, were least likely to endorse ECT in both levels of depression. The data on accepting ECT as a first line treatment option prior to taking medications or undergoing psychotherapy are even more interesting. Once again, respondents were more likely to accept ECT only if they were extremely depressed and overall, fewer respondents chose ECT when offered a choice between interventions, than when there was no choice offered. Of note, 56% of physicians did not choose ECT as a first line treatment option even if they were extremely depressed.

Using the scale devised by Janicak et al. (1985), Gass (1998) surveyed mental health nurses in a regional study in the United Kingdom. Making observations on mental health nurses' knowledge of and attitudes towards ECT from a variety of settings (inpatient and community), Gass (1998) reported a significant relationship between increased experience with increased knowledge scores and positive attitudes. However, disturbingly, 25% of nurses were unsure and 37% were incorrect in their responses to statements referring to therapeutic effect, memory impairment and indications for ECT. In addition, 37% failed to identify memory impairment as a side effect and 64% were either unsure or incorrect about the relationship between electrode placement and memory disruption.

Lutchman et al. (2001) developed the Questionnaire on Attitudes and Knowledge of ECT (QuAKE) comprising 16 items on attitude and 11 on knowledge; the authors report good internal consistency and split-half reliability for attitude.

Mental health professionals from several metropolitan hospitals in London, UK participated in the study. The majority of respondents (57% psychiatrists, 73% psychologists, 79% nurses and 76% social workers) had at least six years' experience in the area of mental health and all had witnessed at least one ECT session. As a group of mental health professionals, there was high agreement that ECT is used for depression but when asked to endorse the unequivocal efficacy of ECT in depression, psychiatrists were at the top end of the scale (87%) and psychologists at the lower end (44%). Psychiatrists were also more likely to believe ECT did not cause permanent memory impairment and did not cause brain damage than psychologists (94% versus 44%) and (91% versus 41%) respectively.

Lutchman et al. (2001) also surveyed attitudes and found a majority of psychiatrists (91%) and approximately one-third (32%) of psychologists indicated they would recommend ECT to a friend or family. Psychiatrists and psychologists were markedly differing in their views about the risk:benefit ratio in favour of ECT (83% versus 14%). Conversely, more psychologists than psychiatrists believed ECT is used because psychiatrists have run out of other options (70% versus 13%). On the other hand, fewer psychologists felt the views of other team members are taken into consideration and that patients are sufficiently informed about the potential side effects (6% versus 74% and 6% and 56% respectively), than psychiatrists.

Results of surveys of mental health professionals suggest, among various disciplines, psychologists are noted to have negative attitudes towards ECT. Whether this is due to psychologists having less knowledge is a point that is debatable.

Knowledge of, and Attitudes Towards, ECT – Perspectives of Patients and Family

Over the last few decades, the mental health environment has become one that is increasing legislated and accountable; notable initiatives have been in the UK (Crawford, 2001) and Australia (Australian Health Ministers, 2003). Associated with these initiatives, from the mid-1980s there has been an escalating trend in eliciting the views of ECT patients on issues related to their satisfaction of treatment (Goodman et al., 1999), and in a health environment where consumers are encouraged to make informed choices, studies have also focused on attitudes and knowledge (Tang et al., 2002).

In Hong Kong, Tang et al. (2002) surveyed knowledge, experience and attitudes towards ECT of patients and their relatives claiming their views are deemed

educative for service providers, optimise ECT delivery and identify gaps in knowledge of the public. The authors found the majority of the patients (88%) reported their doctor had recommended ECT and that ECT would cure them of their illness (85%). The majority (75%) also reported ECT had been of benefit but felt ECT worked by decreasing memory so that issues that are of concern to them are forgotten (47%). Many did not know the procedure involves a seizure (55%) and muscle relaxants (76%). Similarly a large percentage of the relatives (78%) did not know the procedure involves a seizure and muscle relaxants (78% and 79% respectively). In addition, 86% of the relatives reported ECT had been beneficial, and 40% agreed ECT helps patients forget about troublesome issues. It has been suggested that lack of information may be related to amnesic side effects of ECT (Wheeldon et al., 1999). However, the findings by Tang et al. (2002) suggest people are not well informed about all aspects involved in the use of ECT. The high concordance between patients and their families on the statement related to memory impairment adds credence to assertions that information provided by professionals is either inadequate (Donahue, 2000) or misleading (Cameron, 1994; Frank, 1994).

Bernstein, Beale, Burns and Kellner (1998) surveyed patients' perceptions after undergoing ECT. All patients had received a course of ECT between January 1995 and October 1997 and 44% were receiving maintenance ECT (one ECT every few weeks). A modified questionnaire of items used in similar surveys was administered to a sample who was being treated for affective disorders. The majority of respondents (83%) stated ECT had been helpful in treating their illness, however, the high percentage of respondents on maintenance ECT raises questions about bias (e.g., patients' reluctance to disagree with treating physicians). As no indication is given about the time period when respondents provided their answers, the effect of cognitive impairment on responses cannot be ruled out as a majority of respondents (75%) reported side effects with 36% of these respondents reporting they were worse than expected.

Sestoft et al. (1998) compared the attitudes of three groups of depressed patients in Denmark. Group one had undergone ECT, the second group had undergone a medication regime as well as ECT and the third group had medications only. The findings indicate there were no differences in satisfaction between the groups who had undergone ECT, when compared to those who had undergone only a medication treatment regime. Interestingly in a country where ECT is not associated

with as much controversy as in other countries, only 71% of those who had undergone ECT would not choose the procedure as a treatment modality in the future. Of those who had taken medications only, a minority (4%) indicated they would choose ECT over medication for any future episode of depression.

Between January and June 1996, Lawrence (1998) solicited participants in a study using the Internet as her main source of distribution of questionnaires as well as using postal mail services. The technological advantage makes the study unique as it recruited participants from the United States, New Zealand, Australia, Canada and the UK. Of those who responded, 75% had their ECT in the 1990s with a minority in the 1960s (2%). Fifty percent reported they were given no information about ECT and its side effects other than it was an effective treatment and the other 50% reported they had been shown videotapes, given pamphlets, books and detailed discussions with their physician or nurse. Of those who had been given information, several respondents noted they wished they had been given information that was more accurate about memory loss and other side effects. Importantly, a minority reported they were able to discuss the side effects of ECT, in particular, problems with memory, with their doctor afterwards and felt their doctors were respectful and sympathetic. The majority, however, reported their experience was negative and felt the doctor was dismissive or did not believe the patient. Seventy-five percent of the respondents reported they never returned to their treating doctor.

Qualitative studies of patients who have undergone ECT are few. Johnstone (1999) invited responses from people in the community who had undergone ECT and whose experiences were largely negative. As fear is commonly reported in the literature, the study is notable for emergent themes such as shame, humiliation, worthlessness and helplessness as well as feeling assaulted. Importantly, similar to the findings by Lawrence (1998), participants reported they felt they were unable to discuss these feelings with their treating doctor. The negative psychological impact of ECT, Johnstone (1999) highlights, is underestimated, and mental health professionals need to be vigilant about it. The caution urged by Johnstone (1999) is supported by events some 15 years earlier. Based in Toronto, Canada, the Ontario Coalition to Stop Electroshock organised public hearings in 1984 and individuals who had undergone ECT provided testimonies of their experience. Recently, Froede and Baldwin (1999) conducted a content analysis of the transcript and found main themes were: fear, physical symptoms post ECT, issues related to consent, memory

loss, attitudes towards ECT, degradation/dehumanisation, control and information about treatment.

Koopowitz, Chur-Hansen, Reid and Blashki (2003) interviewed patients who had undergone ECT during July 1997 and 1999. Using a semi-structured format, researchers not involved in their care carried out the interviews and qualitative analysis of transcripts. Eleven major themes emerged with fear of ECT and cognitive impairment being two of four themes that were notable for being mentioned most often and for the intensity of the emotions they provoked in the individuals. Koopowitz et al. (2003) reported all participants and their families had been shown an educational video on ECT prior to undergoing the procedure nonetheless, the viewing did not alleviate the fear of ECT. One of the recommendations made by the participants highlighted the need for staff to be more aware of the distress experienced by patients undergoing ECT.

Fewer studies have examined the impact of ECT on the individual and family relationships. In a study by Walter et al. (1999b) the wider implications for the family, particularly, stigmatisation, are highlighted, as although two-thirds of the parents felt ECT had been beneficial for their child, most of the parents (64%) had informed only their closest friends and relatives and overall, 50% attempted to hide their child's ECT history.

Analysing data from intensive interviews with women diagnosed with schizophrenia and their husbands, Warren (1988) explored the subjective experience of fear, attendant grief to memory loss, loss of control, and reports on the "... loss of continuity in the experience of life ..." (p. 297) where ECT-related memory loss became an important element in the dynamics between husband and wife following discharge from hospital. In particular, Warren (1988) notes the 'paternalistic' overtones in the husbands' re-interpretation of previous marital disharmony and redefinition their social role within the marital relationship. Warren (1988) highlights the experience of ECT influences relationships, not only within the marital relationship, but also with parents, siblings and children.

ECT with Children and Adolescents

Based on adult findings, advocates of ECT with young people actively promote the procedure for younger populations (Rey & Walter, 1997). However, Coelho and Baldwin (1999a) argue the practice "is difficult to justify on clinical, moral, humanistic, ethical and legal grounds" (p. 107). Issues related to consent are

particularly important, as it is often the parent (or guardian) who agrees or disagrees to the procedure. Therefore, the practice of ECT with young people has unique challenges, which need to be negotiated after considering legal and developmental aspects of obtaining consent from under-age clients.

Walter et al. (1999a) surveyed patients who had undergone ECT before the age of 19 years between 1990 and 1998 in hospitals in New South Wales, Australia. Assessing experience, knowledge and attitudes, the authors report 43% declined to participate in the study. Forty-two percent of the respondents believed they were given adequate information from mental health professionals. However, the dilemma of informed consent for the young patient is highlighted in the comment of one adolescent who states, "... doctors can be so persuasive ... so you go along with them ..." (Walter et al., 1999a, p. 598). Fifty percent of the respondents reported ECT had helped, with 27% reporting no change, 12% feeling worse and a similar number were unsure. Memory impairment (62%) and confusion (46%) were the most commonly reported side effects with 53% reporting they were upset by the memory problems. A large proportion (38%) did not know ECT involves a seizure, 27% believed the procedure was unsafe and 38% believed ECT leads to "permanent damage". Approximately one-third (31%) identified the media as the source of information. Those patients who reported they did not believe ECT helped them were more likely not to agree to ECT again and were more likely to feel stigmatised.

Overall, the findings of Walter et al. (1999a) are interesting from a psychological perspective. Forty-six per cent of the respondents felt they could have refused ECT if they wanted to, however 27% believed they were not in a position to do so and 27% felt they did not know or could not remember whether they could have refused undergoing the procedure. Two voluntary patients felt their status would have been changed to involuntary if they refused, another patient felt his parent would have agreed to him having ECT without regard to his feelings, two patients agreed to have ECT believing it would harm them, one patient believed ECT would damage her brain and therefore accepted it and another patient hoped she would die while having ECT. Thirty-one percent of the adolescents felt very fearful before having the first treatment with 20% recalling feeling very fearful during the course of ECT.

Coelho and Baldwin (1999a) subjected in-depth interviews of teenage ECT patients to a content analysis to establish themes. Aged between 14 and 16 years, the

participants had been given ECT approximately 12 and 24 months previously. Three major themes emerged from the analysis: fear (desperation, terror, feeling scared/uneasy and feeling sick), harm (getting worse, headaches, memory loss and perceptions of impending danger) and control (not being informed, having information withheld, being confined).

Knowledge of, and Attitudes Towards, ECT – Perspectives of Students and Public

Santa Maria, Boumeister and Gouvier (1998) stress the importance of educating the general public about ECT. The authors surveyed the general public using statements with dichotomised responses and assessed the respondents' confidence in responses using a 5-point Likert-type scale. The authors report respondents who knew someone who had undergone ECT scored a lower overall Total Correct score (63%) and were more confident in their responses than respondents who did not know someone who had ECT (70%). Santa Maria et al. (1998) suggest this finding supports the view that knowing someone who had undergone ECT does not increase knowledge but rather promotes misconceptions about the procedure. However, the conclusions reached by Santa Maria et al. (1998) are arguable. For example, some items referred to the use of ECT as a tool to subdue violent psychiatric patients and memory disruption; both items rated *False* by the authors. The authors did not consider the possibility the results may have been reflective of respondents' knowing someone who had undergone ECT and experienced the procedure as a tool of social control. Misconception, on the other hand, is highlighted by respondents' inability to distinguish between ECT's purpose of *managing* illness rather than *curing* it. In addition, they did not understand that inducing a seizure is essential to the procedure.

Studies of the general public have also included students from various disciplines. Clothier et al. (2001) surveyed second year medical students who attended a behavioural sciences lecture at the University of Arkansas, USA. Fifteen percent of the students reported they felt they were very knowledgeable about psychiatric illnesses with a majority reporting they were not yet at that stage, although, overall, students were reasonably knowledgeable about ECT. The majority were knowledgeable about a course of ECT being between 5 and 10 treatments (50%) and frequency being 2 to 3 times per week (63%). Attitudes towards ECT are of interest when explored with this demographic. Forty percent reported they felt psychiatrists often misused ECT, 31% felt the procedure was used to punish violent

or uncooperative patients, 30% believed the practice of ECT is more prevalent in poor and minority groups and 30% felt the procedure is an outdated form of treatment. However, 57% reported they would undergo ECT if diagnosed with severe depression (with psychotic features). Of interest, those who rated themselves as highly knowledgeable about ECT were more negative towards the procedure. In examining sources of information, 42% reported movies, 25% reported college lectures (psychology and sociology), and 22% reported personal experience with family or friends. When students who reported movies were compared with those who reported college lectures as their source of information, there was no significant statistical difference in their acceptance or non-acceptance of ECT (Clothier, et al., 2001).

Liu and Yim (1996) assessed knowledge of ECT and attitudes towards the procedure in second year allied health students from the disciplines of social work, physiotherapy, occupational therapy (OT) and high school students in Perth, Western Australia. Nearly 45% of OT students, 23% of social work and 35% of Year 12 students did not regard ECT to be an effective treatment in psychiatry. A higher number were afraid of ECT with the breakdown being 65% of OT students, 70% social work and 49% Year 12 students. Most respondents agreed that ECT was dangerous but were less certain about side effects preferring to choose "Neutral" or "Don't know". Similar to results obtained by Clothier et al. (2001), Liu and Yim (1996) found university students in Western Australia felt ECT was outdated. Of note, respondents reported they were not anti-psychiatry yet university students were more likely to oppose ECT than high school students.

Summary

Introduced to clinical practice over 60 years ago, ECT remains a controversial procedure. With rates that are on par with appendectomies in the USA (Fink, 1999), epidemiological surveys of psychiatrists in the USA have revealed only a minority practise the procedure (Hermann et al., 1998). Since the mid-1980s there has been a concerted effort from professional bodies and service providers to examine matters related to practice. Surveys of psychiatrists have found some agreement for clinical indicators but less agreement for contraindications (Benbow, 1991; Benbow et al., 1998). As well, studies indicate although training is adequate, supervision provided to junior psychiatrists in the area of ECT is inadequate (Halliday & Johnson, 1995; Henderson et al., 1993). Against this background of practice issues and government

initiatives that elicit the views of consumers, surveys of patients who have undergone ECT, relatives and general public have been conducted. Although studies of the subjective experience of ECT have been few, when explored, qualitative studies report recurring themes of fear, lack of information and/or misinformation, disempowerment, secondary effects of memory loss such as grief and disruption to family dynamics (Coelho & Baldwin, 1999a; Johnstone, 1999; Warren, 1988).

When examined, surveys of mental health professionals suggest knowledge of the distinctive side effects related to various aspects of ECT administration is poor (Gass, 1996). A recent study of mental health professionals found the majority of psychiatrists did not believe ECT causes permanent memory impairment (Lutchman et al., 2001) yet amnesia is a well-established feature of post-ECT presentation (Weiner, 2000) [and will be discussed more fully in the following chapters]. Patients also report on the inadequacy of information provided (Lawrence, 1998). A lack of knowledge in also found in studies of patients (Tang et al., 2002; Walter et al., 1999b), with results having high concordance with those obtained from family members (Tang et al., 2002).

Views of the public and mental health professionals on ECT are enlightening and the implications have many dimensions. Williams, Cheyne and Macdonald (2001), in a survey of the general public in the UK, found 50% reported they did not know psychiatrists undertake medical training and 80% underestimated the length of training. Barker, Shergill, Higginson and Orrell (1996) report nearly 20% of the respondents in an inpatient psychiatric unit thought psychiatrists and psychologists were the same. Although the public rate complementary therapies higher than help from mental health professionals (Jorm et al., 1997), once contact is made with a mental health professional, patients seek to elicit information, especially side effects, from their treating doctor (Llewellyn-Jones, Jones, & Donnelly, 2001). Therefore, for valid and informed consent to be obtained from the client, it is imperative for mental health professionals to be fully informed about all aspects of treatment (efficacy and side-effects). Discrepancies in knowledge found in surveys of mental health professionals have the potential to cause professional conflict in clinical teams; discrepancies also highlight the potential for misinformation or misleading information given to patients from professionals in authority. As it has been asserted the practice of ECT is evidence-based (Hermann et al., 1998), a closer examination

of the literature in the following two chapters forms the basis for the selection of items in the questionnaire used in this study.

CHAPTER FOUR

Considered life saving (Frankel, 1978), the promotion of ECT by advocates (Abrams, 1997b; Endler & Persad, 1988; Fink, 1999) and by professional bodies centres on safety and efficacy. For example, the APA (1990) states "... the efficacy of ECT in depressive mood disorders is documented in extensive studies ..." (p. 51) [and] "... no contraindication to ECT is absolute ... instead it is more pertinent now to talk in terms of the level of risk rather than in terms of contraindications." (p. 58). A similar endorsement is echoed in the stand taken by the Royal College of Psychiatrists in the UK (Challiner & Griffiths, 2000). As surveys of mental health professionals within the last three years emphasise the safety and efficacy of ECT (Ghaziuddin et al., 2001; Lutchman et al., 2001), the primary aims of the following two chapters are to focus broadly on these aspects through an examination of evidence-based literature.

Professional implications for knowledge deficits about ECT in multidisciplinary teams were highlighted 18 years ago (Janicak et al., 1985) and more recently by Lutchman et al. (2001) who stress these deficits may influence decision-making practices within the team. The relevance of the latter view was voiced approximately 20 years ago when Yudofsy (1982) cautioned mental health professionals should be thoroughly conversant with knowledge of ECT, and, in particular, about the safety aspects of the procedure stating, "one must be aware that it is the attitudes of the professionals and the public who ultimately determine future utilization of ECT" (p. 394).

In Australia a legislated system of mental health care promotes identification of consumer needs and a collaborative approach towards meeting them (Australian Health Ministers, 2003). In keeping with national mental health policy, in its guidelines for preparation of consumer publications, the NHMRC states "the most common fault is to give an overoptimistic view of treatments, emphasising benefits and playing down the risks and possible side effects. It is inaccurate to give an unbalanced view of benefit and risks" (NHMRC, 2004). The advantages of providing accurate information to potential consumers are highlighted in findings of community studies. For example, in a randomised controlled trial by Jorm et al. (2003), participants rated evidence-based consumer guides higher than brochures giving general information on depression. Jorm et al. (2003) note providing people with depression with information about how treatments work, contributed towards

changing their attitudes about help-seeking behaviours. Thus, the importance for mental health professionals having accurate up to date information about prominent mental health interventions is underscored several times over.

Efficacy and Safety

Rasmussen (2003) asserts, as a psychiatric treatment, ECT has well-established efficacy and safety. Modifications in techniques and practice have evolved over the decades leading some to regard ECT as a "modern medical procedure" (Potter & Rudorfer, 1993, p. 883). Not surprisingly, the body of ECT literature is extensive. Therefore, the following two chapters will focus primarily on studies conducted since the mid-1970s when recommendations for ECT practice were first formulated by the APA. This point of reference in the literature will allow examination of findings from systematic and/or meta-analytical reviews. Where necessary, individual studies will also be included as studies that do not meet criteria of a randomised clinical trial (RCT) are still informative to clinicians, patients and wider policy makers (Greenhalgh, 1996; Lelliott, 1998; Williams & Garner, 2002). This approach is essential to maintain the focus on evidence-based literature relevant to items in the questionnaire administered to clinical psychologists in Western Australia.

Fundamental to evidence-based medicine (EBM) is the critical appraisal of clinical research studies using a hierarchy of evidence (Geddes & Harrison, 1997). In Australia the NHMRC considers level of evidence within the context of the study design used by researchers to minimise bias, and have designated six levels in considering evidence-based literature (NHMRC, 1999) and they are as follows:

Level 1: Evidence obtained from a systematic review of all relevant randomised controlled trials.

Level II: Evidence obtained from at least one properly designed randomised controlled trial.

Level III-1: Evidence obtained from well-designed pseudo-randomised controlled trials (alternate allocation or some other method).

Level III-2: Evidence obtained from comparative studies with concurrent controls and allocation not randomised (cohort studies), case-control studies, or interrupted time series with a control group.

Level III-3: Evidence obtained from comparative studies with historical control, two or more single-arm studies, or interrupted time series without a parallel control group.

Level IV: Evidence obtained from case series, either post-test or pre-test and post—test.

Taking the concept of safety beyond mortality alone, the current study takes a broader view on the safety aspects of ECT and includes prominent side effects of the procedure, as they are vital in considering the risk-benefit ratio. Most prominent of all side effects are cognitive side effects, which are linked to technical aspects of the procedure such as frequency (Shapira et al., 1998), electrode placement and stimulus intensity (Sackeim et al., 1993). Some of these technical aspects will be covered in the next chapter, as, although they are inextricably linked to efficacy, which is the focus of this chapter, they are more pertinent to memory related side effects of ECT. Nonetheless, some mention will be made of side effects in this chapter, if they are added dimensions of a review or study.

ECT with Children and Adolescent Populations

The use of ECT with individuals under the age of 18 is particularly controversial. Knapp (2002) highlights the ethical difficulty facing the treating doctor who may 'harm' the child by withholding treatment or 'wrong' the child by giving ECT. Cohen et al. (2000) state ethical principles of autonomy, nonmaleficence, beneficence, justice and cautiousness are emphasised in this population. And, undeniably, the ethical views are polarised. Some see the practice as an abuse of power (Baldwin & Barker, 1995; Baldwin & Oxlad, 1996a; Jones & Baldwin, 1996; Oxlad & Baldwin, 1995) and say the practice is "always inappropriate" (Baldwin & Jones, 1996, p. 319), especially in light of the range of alternative interventions (Baldwin & Jones, 1998). Psychiatrist Tony Baker from the UK claims there is anecdotal evidence of the inappropriate practice of ECT with children (Baker, 1995b) and feels strongly enough about the practice with children under the age of 16 to call for a ban (Baker, 1995a). Expressing his views sharply about anything less than judicious use of ECT with children, psychiatrist Philip Graham cautions American psychiatrists not to "... move from brainlessness to mindlessness ..." (Graham, 1995, p. 1420). At the other end of the spectrum, advocates of ECT see these views as being based on prejudice (Fink, 1995a) and are highly supportive of the use of ECT with adolescents and pre-pubertal children

(Fink, 1995b; Hedge et al., 1997). Regardless of the controversy, as Walter and Rey (1997) note, the use of ECT with young people is promoted by findings extrapolated from adult studies; an approach that has attracted criticism (Coelho & Baldwin, 1999a).

Meta-analysis, Systematic Review and Retrospective Reviews of ECT with Children and Adolescents

Remarkable consistencies are found across a meta-analysis (Baldwin & Oxlad, 1996b), and a systematic review of the previous 50 years (Rey & Walter, 1997) as well as retrospective studies of ECT with young people (Bloch, Levcovitch, Bloch, Mendlovic, & Ratzoni, 2001; Moise & Petrides, 1997; Walter & Rey, 1997). These consistencies include lack of controlled studies or even a single-case study, poor quality of reports, unreliability of diagnoses and lack of standardised instruments to measure outcomes. The combination of unreliability of diagnoses and qualitatively described outcomes has prompted reviewers to rely on inferences when reporting the safety and efficacy of ECT (Rey & Walter, 1997); a similar approach adopted in retrospective studies (Bloch, et al., 2001; Moise & Petrides, 1997; Walter & Rey, 1997). For example Rey and Walter (1997) placed individuals with bipolar disorder into groups for depression and mania thereby generating double allocation of individuals into diagnostic groupings. They report positive outcomes immediately after ECT to be 63% for depression, 73% for bipolar and 80% for mania. At six months Rey and Walter (1997) report post-ECT outcomes to be in the magnitude of 72% for depression, 71% for bipolar and 80% for mania. These high rates of success are not only derived from inferences but are highly suggestive of inflation. On the other hand, despite high success rates (63%) reported by Moise and Petrides (1997), closer examination of their results reveals missing data and results for only three individuals.

Side effects noted in younger populations are numerous and include mania, agitation, confusion, neuroleptic malignant syndrome, prolonged seizures, headaches, and subjective memory loss. The studies indicate a predominance of bilateral ECT and an ECT schedule of three times per week; both technical aspects of the procedure are known to increase cognitive impairment. Yet, testing to measure the influence of ECT on cognitive functioning is virtually non-existent (Bloch et al., 2001; Moise & Petrides, 1997; Rey & Walter, 1997; Walter & Rey, 1997) and when mentioned, was carried out in the 1940s and 1950s (Rey & Walter, 1997). Generally

promoted as life saving and a treatment of last resort, Baldwin and Oxlad (1996b) report less than 5% of the studies mentioned risk of suicide and a suicide attempt had been made in only three out of 217 cases. As well, Rey and Walter (1997) report less than 15% of the studies reported interventions pre-ECT.

Reflecting on an annual estimation of ECT with minors in the USA to be between 500 and 3 500 (Thompson & Blaine, 1986, cited by Baldwin & Oxlad, 1996b), it is asserted there is an underreporting of the practice with this population (Baldwin & Oxlad, 1996b). Studies have not reported outcomes longer than six months and, short-term outcomes reflect a bias towards positive results; Baldwin and Oxlad (1996b) attribute these outcomes to the fact most of the behaviours in mood and psychotic disorders are extreme and regression to the mean may account for reported improvements. The confounding factor inherent in adjunct therapies such as anti-depressants (Bloch et al., 2001) and drug rehabilitation programs (Moise & Petrides, 1997) has not been considered in follow up studies. Inferences, missing data, the effects of which may bias results, and other methodological flaws in reviews have seriously compromised the integrity of results on efficacy and/or effectiveness of ECT with young people. Not surprisingly Rabheru (2001) urges a judicious approach, citing the evidence on efficacy and safety is equivocal and further comments future directions "... would fall under the category of research that involves greater-than-minimum risk ..." (p, 710). In Australia, the views reflect those of Rabheru (2001). For example, the NHMRC recommendations for treating non-bipolar major depression in young people assign ECT to Level IV evidence. That is, ECT should only be used after approaches such as cognitive behaviour therapy, relaxation therapy, support groups, social skills training, interpersonal psychotherapy, family therapy, exercise, and pharmacological treatment, have been exhausted (Chan, Rey, & Hazell, 2002).

ECT with Adult Populations

Invariably promoted as a life-saving treatment option (APA, 1990; Frankel, 1984; NHMRC, 1985), the body of literature examining the influence of ECT on suicide indicates there is no convincing evidence of ECT's effect on suicide risk (Sharma, 2001). Nevertheless, Rasmussen (2003) found studies promote ECT as a first line treatment option for psychotic depression and suicidality. This promotion is supported, in part, by claims of efficacy. For example, according to Glass (2001), the APA reports response rates of between 80 and 90% in depression and between 50

and 60% in patients who previously had at least one trial of antidepressants. The following section focuses on claims of efficacy in adult populations.

ECT with Adult Patients (Under 65 Years of Age)

A previous meta-analysis of ECT in adult populations found the treatment to be superior to simulated ECT, anti-depressants and placebo (Janicak, Davis et al., 1985). The review also found no difference between unilateral and bilateral ECT on efficacy or cognitive functioning. These claims are considered in light of the most recent findings of the UK ECT Review Group (2003), which conducted a systematic review and meta-analysis on the efficacy and safety of ECT in depressive disorders in adults. Evaluation of ECT was based on the change in depressive symptoms at the end of a course of ECT and at six months post-ECT. Safety of ECT was viewed primarily within the context of cognitive side effects and mortality. The reviewers comment the quality of reporting was poor, only two trials described the methodology for allocation concealment and most of the trials were small. Randomised evidence suggests in the short-term (i.e. immediately after a course of treatment), there is reduction of depressive symptoms but similar findings for outcomes longer than six months were not found. Real ECT produces anterograde and retrograde amnesia, and real ECT causes more cognitive impairment than either simulated ECT or drug therapy. Electrode placement has bearing on memory dysfunction, as does frequency of ECT per week and stimulus dose. Overall, bilateral ECT and high dose ECT brings about faster reduction in depressive symptoms but cause more cognitive impairment. The authors cautiously endorse the use of ECT in short-term reduction of depressive symptoms with this risk:benefit ratio as a caveat.

The ECT Study Group (2003) considered a change in depressive symptoms as evidence of efficacy but did not conduct a critical appraisal of the studies; therefore, some of the shortcomings of the more rigorous studies will be considered here. The results of the study comparing real ECT with simulated ECT (anaesthesia only, no convulsions) by Johnstone et al. (1980) and Gregory, Shawcross and Gill (1985) should by virtue of research design, be convincing in favour of ECT. But they are not. Firstly, Johnstone et al. (1980) claim patients were randomly allocated to either treatment condition with one exception; patients who were diagnosed with delusions, agitation and retardation were placed in the real ECT group. It is more than likely

their symptoms were extreme and as previously noted by Baldwin and Oxlad (1996b) the symptom change scores may reflect a regression to the mean.

Secondly, Giles (2002) asserts recovery for those who underwent real ECT would have been dissimilar to the sham ECT group. Individuals who underwent ECT would have been more prone to headaches, soreness of joints, cognitive impairment and in the recovery phase, easily distinguishable from the individuals who underwent sham ECT. Ratings would have been susceptible to unavoidable experimenter bias (Giles, 2002). This is particularly so if one keeps in mind, although they were double blind studies, consultant psychiatrists (*presumed to be experienced clinicians* [my italics]), were monitoring these individuals and providing the scores for depressive symptoms. Also, 22% of the patients in one study had previously undergone ECT (Johnstone et al., 1980) and it is likely they would have been able to self-identify themselves in either group conditions; a point made by O'Leary (1996) in a similar argument. Lastly, there were no observable differences between the two groups at the four-week endpoint in either study (Gregory et al., 1985; Johnstone et al., 1980), which highlights short-term effects of ECT and also alludes either to a placebo effect or experimenter bias influencing the results in the short-term findings.

Further, with anti-depressants used as an adjunct treatment in the study by Gregory et al. (1985), results at follow-up are, at best, confounded. In addition, the drop out rate of just over 36% due to a variety of reasons including 20% who failed to improve introduces another dimension of bias. Finally, at the end of the study just over 46% of the patients underwent bilateral ECT; the switchover suggests a failure to improve. In a follow up of the patients studied by Gregory et al. (1985), O'Leary and Lee (1996) note the high mortality rate indicated the risk was doubled for patients who had undergone real ECT. Also, of interest, despite the high percentage of the patients being switched to bilateral ECT in the original study (Gregory et al., 1985), 68% of the patients were readmitted into hospital at least once during the seven-year follow up period with 20% within the first 16 weeks post-ECT and 61% after 16 weeks.

As a first line treatment option, studies comparing ECT and antidepressants find no differences and equally high relapse rates (up to 44%) between groups. These figures are further supported in post-ECT studies that have used placebo and combination antidepressants; relapse rates are reported to be as high as 84% for

placebo and approximately 40% for antidepressants (Sackeim et al., 2002). Often considered a treatment of last resort for patients who have had trials of medications, relapse rates for these patients are also high with Prudic et al. (1996) reporting 22% of patients who met criteria for a positive response at three days post-ECT, did not meet criteria at one week and perhaps more alarmingly, none of the patients met criteria at more than one week post-ECT. Criticisms about this study have centred on administration aspects of ECT, that is, unilateral ECT (Abrams, 2001), but closer examination of the data reveals a high number (59) of patients had switched to bilateral ECT very early in the study. Likewise, Philpot et al. (2003) in a retrospective review of clinical notes find support for findings reported by Prudic et al. (1996). It should be highlighted that, unlike the latter study, all the patients in the review by Philpot et al. (2003) had undergone bilateral ECT and this mode of administration is reported to produce greater reduction of depressive symptoms in randomised double blind studies (Sobin et al., 1996). A major difference between the studies that compared real ECT with simulated ECT, and studies that compared ECT with pharmacotherapy, is that the latter comparative studies used stringent criteria in their definition of positive outcomes. For results to be meaningful, Myers and Winters (2002) endorse this approach, when objective measurements are used for affective disorders.

Unlike the studies of ECT with children and adolescents, the studies of ECT with adult populations have generally used standardised instruments to measure outcome (for example, the Hamilton Depression Rating Scale [HDRS]), diagnostic inclusion criteria have been clearer, and study designs attempt to meet the rigours of appropriate methodology to assess efficacy. These attempts have reported short-term outcomes, and in clinically stringent studies, for example by Prudic et al. (1996), less than one-week duration. Although raters are reported to be blind to treatment allocations, given the nature of the treatment, experimenter bias needs to be considered in high rates of positive outcomes. These factors have not been taken into account when authors/reviewers have reached their conclusions about studies examined here. When these factors are taken together, the promotion of the superiority of ECT efficacy, either as a first line treatment option or when medications have failed, is to be viewed with caution. In particular, the promotion of ECT as a treatment of last resort, that is, after pharmacotherapy has failed, does not

have a strong evidence base (Prudic et al., 1996). Consistently high relapse rates add credence to this view.

ECT with Adult Patients (Over 65 Years of Age)

Depression in older populations is a growing concern. Espinoza (2003) reports depression is associated with the highest rates of psychiatric mortality (from suicide) and ranks tenth among the leading causes of death in this population. Ethical issues of the practice of ECT with this population are similar to those with younger populations and in particular, the issue of competence to give valid and informed consent has been raised (Oxlad & Baldwin, 1996). It is a matter acknowledged by the law in England and Wales; the Scoping Group on the revision of the Mental Health Act 1983 has made recommendations protecting the rights of individuals who have the capacity but do not give consent, and prohibiting the delivery of ECT to those considered to be in a 'life-threatening' situation (Jacoby, 2002). As well, the vulnerability to the risks associated with ECT (i.e., general anaesthetic, concurrent psychiatric medications, medical conditions) in this population further highlights the clinician's dilemma. For example, Tuma (2000) highlights death (due to cardiovascular and respiratory diseases) and dementia is higher in elderly depressed patients at four and a half year follow up than in adult depressed patients. The use of general anaesthetics and muscle relaxants (modified ECT) has not completely ameliorated the problems with fractures in this population (Baethge & Bschor, 2003). Further, de Carle and Kohn (2001) alert to the dangers of elderly people having falls in an inpatient unit, with the number of ECTs and the diagnosis of Parkinson's disease being identified as risk factors (de Carle & Kohn, 2000). Against this complex ethical and clinical predicament, the evidence based that promotes the prescription of ECT with older populations merits closer investigation.

Elderly patients (that is, patients over the age of 65 years) are more likely to undergo ECT for depression than younger adult populations and reasons include, but are not limited to, intolerance to medication, complex medical conditions and the rapid physical deterioration of elderly people during depression (Flint, 1999). As a first line treatment option for elderly patients with psychotic depression, Flint (1999) and Flint and Rifat (1998a) found ECT to be superior to medication. Comparing outcomes for ECT and medication, Flint (1999) found ECT produced not only faster results, but results that were superior to medication. Despite these impressive

outcomes, Flint (1999) cautions the results are preliminary as no objective measurements were used for outcomes and patients were not randomly allocated.

Reviewing the side effects of ECT on individuals over 85 years, Flint (1999) reports most of the patients had unilateral ECT and 32% suffered confusion and delirium, with those with Parkinson's disease who were given ECT for psychiatric illness more likely to develop delirium. The other side effect most frequently reported was asystole (reported in 40% of the treatments), which was not predictable by medical history, cardiac history, medication or technical parameters of ECT. The patients who experienced asystole were also younger than the ones who did not experience it. Finally, relapse rates were high (29%). The findings on relapse reported by Flint (1999) are consistent with a previous study. Examining a two-year outcome of psychotic depression in older populations, Flint and Rifat (1998b) found patients with psychotic depression were more like to relapse (53%) than those without psychotic depression (15%). All patients were maintained on medication and monthly follow up and the high rates of relapse were not influenced by these post-ECT factors.

In a review Rabheru (2001) suggests elderly patients appear to undergo ECT earlier in the course of illness, are more likely to respond to bilateral ECT than unilateral ECT and have longer courses of ECT. Memory deficits and confusion are more often reported for older patients and those with medical illnesses. In addition to anterograde and retrograde amnesia, the elderly are more prone to losses of autobiographic information. ECT causes hypoprofusion in frontal areas and this may contribute to dementia with patients with compromised cerebral vascular systems. Overall, when considering medical illnesses, side effects and the consequences of depression in the elderly, Rabheru (2001) states using ECT with this population poses challenges.

With cognitive and physical systems already compromised by ill-health, there are ethical and clinical dilemmas for clinicians treating older patients who have a psychiatric illness. But, similar to findings of adult and younger populations, studies of ECT with older populations face almost identical criticisms, namely, lack of standardised instruments to measure outcomes, lack of randomised, controlled trials and minimisation of the risks associated with ECT. Also, studies have failed to examine the cognitive side effects in a systematic and objective manner. And, finally, consistent with reviews of the use of ECT in other populations, relapse rates

are high despite adjunct pharmacotherapy, and in some studies, supportive therapy, in the follow up period.

Continuation and Maintenance ECT

ECT given after an initial successful course at a lesser frequency, for example, one ECT every one to four weeks, is called continuation ECT (C-ECT). Some consider C-ECT an effective treatment option in reducing relapse from the most recent episode of illness (Andrade & Kurinji, 2002). Maintenance ECT (M-ECT) is approximately the same concept except it is seen to prevent recurrence of new episodes of illness (Andrade & Kurinji, 2002). C-ECT and M-ECT are practised in many parts of the world (Andrade & Kurinji, 2002). Prudic et al. (2001) in a study of 59 ECT facilities in New York City, USA, report nearly 16% of patients undergo C-ECT. Patients with affective disorders who fail to respond to pharmacotherapy generally fail to be maintained on the same medications and so are usually referred for maintenance or continuation ECT (Andrade & Kurinji, 2002). In addition, the financial incentives associated with reduced inpatient costs favour the use of C-ECT or M-ECT on an outpatient basis (Irvin, 1997).

Reflecting on its burgeoning popularity, Andrade and Kurinji (2002) reviewed the literature on continuation and maintenance ECT, which was published over the last 10 years. The authors report that C-ECT and M-ECT, usually given once a month and continued for years, are often interchangeable referents in reports. Outcomes were usually measured in terms of rehospitalisation. Remission rates are reported to be high for affective disorders (45%) and 33% for patients with bipolar disorder, and rehospitalisation is reported to be as high as 67%. In patients with affective disorders the history of illness was lengthy, for example, an average of 26 years, with patients who had ECT relapsing more frequently than those having medications. Attrition rates are usually due to problems with memory. Cognitive testing using objective measurements was rare but when administered (such as the National Adult Reading Test) along with non-standardised approaches such as telephone follow up, the reviewers indicate, ECT given over many years does not produce increase in cognitive side effects. Bilateral ECT was generally the placement of choice. Concurrent use of medication was frequent. Similar to the studies for affective disorders, Andrade and Kurinji (2002) state almost identical findings in the treatment of schizophrenia, psychiatric illness in patients with

Parkinson's disease, and other psychiatric conditions. That is, the literature review reveals small studies and high numbers of ECT given over several years.

Wijkstra, Algra, van Vliet and Kahn (2000) undertook a review of the literature on C-ECT with patients diagnosed with affective disorders and also report on their naturalistic case series. The authors report the body of literature on C-ECT indicates at six months post-ECT, 30% of individuals on C-ECT relapse regardless of whether or not the individual has a medication regime to complement their C-ECT schedule. They report this figure is higher (approximately 50%) if an individual has failed an earlier medication regime. Similarly, rates of relapse at 12 months [figures not reported] were significantly related to lack of improvement with medication prior to undergoing ECT. Wijkstra et al. (2000) report these findings were supported in their naturalistic study of patients who were given ECT at weekly intervals for the first month, and then twice after three weeks and then finally monthly. All patients were medication free during this period. The HDRS (17-item version) was used to measure depressive symptoms before each C-ECT session. Relapse criteria were defined as a HDRS score which was greater than or equal to 50% of the HRSD score before ECT and a minimum HDRS score of 14 (these scores had to be maintained for at least one week). The authors report 50% of their patients relapsed at six months and three individuals had to be re-hospitalised.

Fox (2001) presents case reports of patients with chronic depression and frequent relapses, who had medication-refractory episodic depression and were treated with ECT. In all cases depression had been treated for over 30 years and individuals had in excess of 50 ECT during the course of their illness history. Cognitive testing with the Mini Mental State Examination (MMSE) suggested there were no adverse side effects, although Fox (2001) acknowledges the MMSE is not sensitive enough to measure cognitive side effects post-ECT. On the other end of the spectrum, by far the largest retrospective study in the area, Gagne, Furman, Carpenter and Price (2000) examined the clinical notes of patients treated and maintained with ECT who were matched to a similar group maintained on medication instead of ECT. The reviewers report, at follow up (mean duration four years), the group having C-ECT were significantly better. They had undergone C-ECT at a rate of weekly for the first month, every two weeks for the following month and then monthly. At two years the cumulative probability of surviving without relapse or recurrence was 93% for the C-ECT group and 52% for the antidepressant

alone group. But by five years these figures dropped to 73% for the C-ECT group and 18% for the medication group. The reviewers however add caution to the optimistic figures stating the many limitations of a naturalistic, retrospective study apply in this case. For instance, although relatively large, the sample size was still modest and did not allow detection of meaningful differences. Patients were not randomly assigned to treatment groups; outcomes were neither prospectively systematic nor blind; standardised instruments were not used and limited information was available in patient records. Lastly, patients who had C-ECT had at least monthly contact with the clinician; contact not available to those in the antidepressant alone group.

ECT with Special Populations

Medical conditions such as space-occupying lesions of the brain, brain tumours, intracranial vascular masses, stroke and cardio-vascular disorders also pose clinical and ethical dilemmas (Rabheru, 2001). There are no controlled trials of ECT with patients with medical conditions; nonetheless successful results with ECT have been published in case reports. Rabheru (2001) comments the small numbers do not suggest there is unequivocal evidence for ECT with these special patient populations. For example, successful ECT results are reported for victims of stroke but these rates are followed by high rates of relapse despite the use of maintenance antidepressant therapy. Patients with dementia are more likely to suffer from greater severity of cognitive impairment, confusion and delirium post-ECT. Cardiac complications following ECT are usually associated with ECT mortality therefore patients with existing cardiovascular conditions are at particularly high risk. Therefore, as Rabheru (2001) highlights, the risk-benefit ratio that presents to the treating physician is unique and asserts it is a ratio that re-emphasises the importance of gaining valid and informed consent from an already compromised and vulnerable patient population.

In a regional study in the UK, Cutajar and Wilson (1999) found gaining consent from people with intellectual disability to be a key difficulty for psychiatrists. Examining clinical notes of clinicians who had administered ECT in the previous five years, they found eight individuals had been given 122 ECTs. The authors report standardised instruments were not used to measure outcomes or assess cognitive impairment and relapse rates were high. Friedlander and Solomons (2002) retrospectively reviewed the clinical notes of 10 individuals with intellectual

disability diagnosed with a range of psychiatric disorders. The reviewers report positive outcomes for seven of the patients. No formal testing of cognitive side effects was undertaken and no side effects were noted in the clinical files. Self-injurious and aggression behaviours were reported to have completely disappeared following ECT. Based on these findings, Cutajar and Wilson (1999) and Friedlander and Solomons (2002) support the use of ECT with patients with an intellectual disability.

Summary on Efficacy of ECT Across Populations

The review of literature on ECT informs the procedure is used across all populations. It has been used with children and adolescents for at least 50 years and there are no controlled trials or single-case studies. The quality of reports is poor and conclusions of reviewers are generally based on inferences. Diagnoses and outcomes were not based on standardised instruments. High success rates in one major review are linked to double allocation of bipolar patients in two categories (depression and mania), an allocation that inflates the percentage of (inferred) positive outcomes. The findings from retrospective reviews too, are based on inferred diagnoses and outcomes.

The studies with adult populations (ages between 18 and 65 years) have attempted to meet requirements of clinical trials. A recent meta-analysis of ECT with adults with depressive disorders reported short-term outcomes needed to be considered in light of the risk-benefit ratio (UK ECT Group, 2003). Of note, approximately 84% of the reviewed studies which compared real ECT with simulated ECT, and ECT with pharmacotherapy, were carried out more than 20 years ago. This is of particular importance, as Rey and Walter (1997) noted in their review of ECT with minors, older studies were less likely to examine and/or report adverse side effects and the quality of reporting was poor. Unlike studies with younger populations, standardised instruments have been used in adult populations to reach diagnoses and measure outcomes. Nonetheless, in studies examining real and simulated ECT, the nature of post-ECT recovery compromises the attempts of raters blind to treatment allocation. In studies comparing ECT with pharmacotherapy, outcomes are short-lived (one week) (Prudic et al., 1996) and once again, criticism for real and simulated ECT applies here as well, namely, scores influenced by regression to the mean and inherent experimenter bias.

The most commonly used measure of ECT outcome is the HDRS. It is important to emphasise the HDRS predominantly measures somatic symptoms rather than affective and cognitive aspects of depression (Groth-Marnat, 1999). In addition, the ratings are based on clinician observations, and although the HDRS has five dimensions only one dimension is used in studies with depressed patients to define global severity of depression (Myers & Winters, 2002). The absence of inter-rater reliability reported in outcome studies is an unfortunate oversight of the UK ECT Group in their *critical* appraisal of the literature, as is their omission of the potential influences of bias. The importance of these factors are highlighted by Brodaty, Berle, Hickie and Mason (2003) who assessed patients' expectations pre- and post-ECT and examined the rates for concordance with two clinical assessors. The expectation rates for the two clinical assessors were 94% and 100% respectively in noting an improvement post-ECT measured on the HDRS. The concordance rates between patients and assessors before ECT were small and improved only slightly post-ECT. There were no significant differences found in the patients' expectations scores pre- and post-ECT. At study endpoint, only 28% had a HDRS score of greater than 16 and prediction of outcomes indicated by raters pre-ECT, was significantly associated with improvement post-ECT. Importantly, this was not found with the patients' ratings.

Psychiatrists often prescribe ECT for elderly patients with psychotic depression (Benbow, 1998). Notwithstanding comments noted by Baldwin and Oxlad (1996b), about regression to the mean, outcomes in elderly populations are generally *observable* and lack the use of standardised instruments. Further, the use of MMSE to measure cognitive side effects is inadequate and limited, as the MMSE, according to Groth-Marnat (1999) "... is sensitive to global and left hemisphere deficits but not right hemisphere deficits ..." (p. 83). Reviews report older adults are often given bilateral ECT and adults switched from unilateral to bilateral ECT. Poor outcomes have led Evans (2000) to reflect on the predominantly biological approach to treating depression, and query the lack of psychotherapy, an approach, he claims, requested by elderly patients and echoed in studies of adult mental health consumers (Barrett, 2001; Rogers et al., 1993) and children and adolescents accessing mental health services (Laws, 1998). ECT is also a first line treatment option for some patients and when medications fail to elicit a positive outcome. Studies comparing ECT and antidepressants report equally poor outcomes with no differences between groups.

Similarly, claims that prophylactic ECT can prevent the high relapse rates are not supported; there are no significant differences between groups having medication or continuation ECT.

Findings of retrospective studies, where, despite poor clinical notes, inferences on diagnoses and outcomes and the influence of major confounding variables are not taken into account, are notable. Minimisation or lack of comment on side effects is a prominent feature of reviews. Skewed views are noted in the language of reviewers where inherent bias is reflected in comments such as "as expected" no side effects were reported (Bloch et al, 2001, p. 1334), or "if indeed such deficits do arise" (Andrade & Kurinji, 2002, p. 155) and Fox (2001) commenting patients responded "robustly" when evidence suggests the contrary (p. 64). Cutajar & Wilson (1999) go further to claim ECT is "life-saving" with patients with intellectual disability with no corroborating evidence (p. 425).

Andrews (1999) notes the discipline of psychiatry was one of the first to develop clinical practice guidelines, and says, guidelines should be "based on immaculate science" (p. 562). It is also widely understood that published literature forms the bedrock for evidence-based practice (Gilbody & Song, 2000). Geddes and Harrison (1997) support evidence-based medicine saying systematic reviews of randomised controlled trials (RCTs) "are the most reliable study design for the evaluation of treatment" (p. 221). Key questions related to internal validity ("are the results trustworthy?") and external validity ("can they be applied to my patients?") when RCT criteria related to efficacy are not met, Geddes & Harrison (1997, p. 221) assert, should be asked as the less stringent criteria may inform about clinical effectiveness to a wider audience (Lelliott, 1998). When the quality of evidence is influenced by bias ("that is – the systematic deviation of the results from the truth") (Geddes & Harrison, 1997, p. 221), then this element defeats the critical appraisal of literature (Geddes & Harrison, 1997; Gilbody & Song, 2000). These views are confirmed in this chapter where, overwhelmingly, authors of major reviews across patient populations have promoted the efficacy of ECT while disregarding the evidence, which at best, is weak.

CHAPTER FIVE

Memory impairment following ECT often lies at the core of the controversy surrounding the procedure (CPA, 2003). Several aspects of ECT administration such as frequency per week and placement of electrodes (i.e., unilateral and bilateral) affect cerebral functioning (Shapira et al., 1998). Thickness of the skull, variability in the pressure used to adhere electrodes to the skin as well as the type of electrical conductor used, influence impedance (Gordon, 1982) and the level of impedance impacts cognitive functioning (Smith & Nalpas, 2001). Bilateral ECT produces a greater degree of anterograde memory loss as well as more extensive retrograde memory loss, than right unilateral ECT (Squire, 1977). But this is not always the case. Outcome is also influenced by stimulus intensity which research suggests is a growing area of interest (UK ECT Study Group, 2003). Recent studies indicate higher stimulus intensity produces cognitive side effects in right unilateral ECT that are similar to bilateral ECT (Sackeim et al., 1993, 2000). However, this technicality will not be explored in detail in this chapter for the following reasons. Firstly, the questionnaire used in this study does not have items related to stimulus intensity. Secondly, there is high variability among ECT practitioners in Australia (Little et al., 1998) and little is known specifically about practice in Western Australia. Overall, the framework for this chapter is similar to the previous chapter where the historical point of reference for research findings is the mid-1970s.

Carers of individuals who have undergone ECT acknowledge the effects of ECT on cognitive functioning. For example, all parents of adolescents who had undergone ECT four and a half years earlier reported memory impairment in their child (Taieb, Cohen, Mazet & Flament, 2000). As carers within the hospital environment, nurses, Datto (2000) and Durr and Golden (1995) emphasise, play a particularly important role in monitoring patients and should be familiar with the cognitive side effects of ECT. In recent years, education about ECT has been promoted among nurses (Valente, 1991) and mental health professionals (Leinbaugh, 2001). On the other hand, acknowledgement about deficits in memory functioning post-ECT among practitioners, Rose, Wykes, Leese, Bindman and Fleischmann (2003) note, is less forthcoming. Certainly, there are divergent views on the subject that have largely promoted parallel lines of research, that is, the clinician's perspective and the patient's perspective. In fact, in examining various aspects of ECT administration, Ottoson (1985) cautiously acknowledges the use of ECT as a

treatment modality for depression but also states, "it is potentially harmful to the brain" (p. 941). In response to the opposing theories about memory related side effects, Ottoson (1985) goes on to say, in the absence of memory dysfunction following objective testing, does not mean the individual is not experiencing difficulties. To comprehend the patient's experience with memory loss, Moyle (1997) argues for the setting aside of scientific perspectives that inevitably generates distance between patient and carer. Therefore, this section will commence by examining memory loss from the patient's perspective.

Effect of ECT on Memory – The Patients' Perspective

Rose et al. (2003), in a systematic review of the patients' perspective, examined 26 studies by clinicians and nine reports by patients (or collaboration with patients) who had undergone ECT. Rather than considering efficacy (from a controlled clinical trial perspective), the authors considered the patient's attitude towards perceived benefit from ECT and reports of memory loss. The reviewers found more positive attitudes towards ECT by patients if the interviews/studies were conducted in hospital settings and by treating doctors. A majority of the studies (57%) found memory loss to be a side effect of ECT. Reports of persistent memory loss varied between 29% and 79% regardless of whether or not studies were clinician or patient directed. Overall, Rose et al. (2003) claim patients report lower rates of perceived benefits of ECT than clinical directed studies. This is also consistent in qualitative reports. The authors conclude, the Royal College of Psychiatrists' standing on patient satisfaction with ECT being in excess of 80% and that memory loss is not an important clinical issue, is essentially, "unfounded" (p. 1363).

Effect of ECT on Memory – the Clinicians' Perspective

There is an enormous body of literature examining cognitive side effects of ECT and conflicting views abound. Divisive views are generally embedded in arguments that claim cognitive side effects are a result of residual depressive symptoms (Endler & Persad, 1988; Fink, 1999) or that ECT causes brain damage (Breggin, 1999; Templer & Veleber, 1982). The latter views are supported in a review on the effect of ECT on human learning and memory where Roberton and Inglis (1977) report some of the effects resemble deficits following temporal lobectomy. What is clear from studies over the past several decades is that ECT affects cognitive functioning in a distinctive manner (Rami-Gonzalez et al., 2001),

disrupts certain memories and for longer periods of time than previously thought (Lisanby, Maddox, Prudic, Devanand, & Sackeim, 2000).

Reviewing the literature on the effects of ECT on memory, Rami-Gonzalez et al. (2001) report declarative memory (also known as explicit memory) is impaired after ECT. This type of memory requires the ability to recollect facts and events on a conscious level, and requires widespread connections in the neocortex area within the brain. Rami-Gonzalez (2001) conclude, after examining the literature on the neurophysiological studies in the area, deficits are more than likely due to changes at the neurotransmitter level where the process of consolidation, storage and retrieval is generated. This conclusion was foreshadowed several decades earlier, when Robertson and Inglis (1978) highlighted the complexities involved in cerebral processes and asserted that full appreciation of these processes is undermined if understanding is confined to cerebral hemispheric laterality.

Effects of Depression and ECT on Memory – Same or Different?

There is a correlation between depression and cognitive functioning (Stromgren, 1977) and recent research suggests, although strongly correlated, depression influences sub-sets of memory rather than global memory functioning (Burt, Zembar & Niederehe, 1995). Using a battery of neuropsychological tests, Porter, Gallagher, Thompson and Young (2003) compared the results of patients with first episode major depression and a control group who were matched on demographics alone. The researchers included patients who were free of psychotropic medication for at least six weeks and none had undergone ECT. The authors report no significant differences were noted between groups in immediate word span, learning or long-term recall and recognition. Nonetheless, the depressed group was impaired in memory for visually presented patterns and spatial locations (recognition tasks); reaction times for the task involving visually presented patterns were also increased for this group. Of note, there were no differences between groups in the Tower of London task (a task which involves planning and generating a target arrangement in minimal number of moves). The results for the Tower of London tasks (which record accuracy and latency) left the authors to conclude executive functioning is, perhaps, less vulnerable to clinical state. Overall, the study found intact declarative verbal learning and memory in depressed patients, with deficits noted in performance on tasks of visual and spatial recognition.

As well as influencing cognitive functioning, depression affects cerebral structures (Shah, Ebmeier, Glabus, & Goodwin, 1998); the latter finding disputed in ECT patients. Using magnetic resonance imaging (MRI), Devanand, Dwork, Hutchison, Bolwig and Sackeim (1994) report ECT does not change cerebral structures. But the limitations of MRI are noted (Giles, 2002; Scott, 1995; Scott & Turnbull, 1990) and confirmed in more recent studies that use voxel-based analysis (an extension of structural analysis) (Shah, Glabus, Goodwin, & Ebmeier, 2002). For example, analysis of structural scans is generally performed using slice-by-slice measurement of the structure under analysis. An extension of this involves a process that follows segmentation, where, essentially, the grey and white matter tissue areas are compared between groups using a technique that is fully automated and operator-independent.

Effects of ECT on Memory

Assertions of the limited effects of ECT on memory, and, when found, attribution of deficits to depression are based on studies carried out in the past two decades. Therefore, it is important to examine older studies and add to previous understanding by considering studies using more sophisticated methodology.

Frith et al. (1983) discuss the results of the cognitive tests from a study carried out by Johnstone et al. (1980), which was reviewed in the previous chapter. Individuals who were not depressed and had never undergone ECT were matched with the depressed group (who completed a course of eight ECT over four weeks) and had undergone real ECT or simulated ECT. Psychologists who were blind to treatment allocation carried out assessments. At pre-treatment, the depressed group's performance was lower on all memory tests compared to controls. At post-test, compared to simulated ECT, the real ECT group experienced deficits in vigilance, word list recognition and learning immediately after ECT. Comparing pre-ECT and post-ECT results at six months, the authors report, revealed cognitive testing suggested no significant differences between treatment groups leading to the conclusion "there is no evidence of any long term impairment of memory after one course of standard bilateral ECT" (p. 616). Firth et al. (1983) go on to attribute the high percentages of patients experiencing difficulties in subjective memory and concentration to a subgroup of treatment resistant patients who may have developed another episode of depression at the six month endpoint. Nonetheless, closer examination of raw data reveals Firth et al. (1983) failed to highlight some salient

observations, which were reported by Johnstone et al. (1980). For example, 38% complained of problems with subjective memory in the real ECT group compared to 26% in the simulated group. And 50% continued to have problems with concentration in the real ECT group compared with 32% in the simulated ECT group (Johnstone et al., 1980). In other words, notwithstanding relapse in both groups, although the pre- and post-scores did not reach statistical significance, a higher percentage of people in the real ECT group complained of memory difficulties.

Steif, Sackeim, Portnoy, Decina and Malitz (1986) studied the effects of depression and ECT on anterograde memory with the specific aim to examine immediate and delayed memory performance. Inpatients with depression were matched to people who did not have a current psychiatric or medical illness. In addition, a control group who had no ECT in the past year and were not taking medications were included in the study. Inpatients were randomly assigned to bilateral ECT or right unilateral ECT. Pre-treatment testing started on average about a week before ECT and post-treatment was approximately 24 to 36 hours after the last treatment in a course (usually 6-7 ECT) (referred to as the post-seventh interval). Those who had more than seven ECT were re-tested at a third interval (usually 4 days after the last treatment in the course). Controls were tested at the corresponding times. At baseline (pre-treatment), when compared to the controls, patients showed marked deficits in immediate recognition of newly acquired information but not at post-ECT. At baseline, there was no suggestion they also had difficulties in their ability to retain information following a delay, however, at post-treatment, their results indicated, they did. In comparison, scores for controls at times corresponding to pre- and post-ECT intervals were unchanged. Steif et al. (1986) report deficits differed during depression and post-ECT, that is to say, depression impacts acquisition and ECT impacts retention. The findings in this study are also important from another perspective. These deficits were noted despite ECT being administered at low-dosage intensity.

Rami-Gonzalez, Salamero, Boget, Catalan and Bernardo (2003) examined patients with major depressive disorder (in remission) who were undergoing maintenance ECT (M-ECT) and matched them to a group who had not undergone ECT. All participants underwent neuropsychological testing for memory, attention and frontal lobe function. Rami-Gonzalez et al. (2003) report there were no significant differences between groups for long-term memory or attention, nor in the

results for the task examining executive functioning (Tower of London). But, encoding of new information and performance for frontal function tests demonstrated significant impairment for the group undergoing M-ECT. Of note, none of these patients was undergoing more than one ECT per month. They had a mean total of 36 previous ECT and the mean time for M-ECT was 27 months. In addition, just over 80% of these patients had finished a course of ECT six months prior to the assessment. All patients had undergone bilateral ECT.

Using a larger sample of patients with predominantly affective disorders and undergoing M-ECT, who were matched to a group who had not undergone ECT, Rami-Gonzalez et al. (2003) report findings of neuropsychological assessment. The M-ECT group was euthymic (all had scores on the HDRS of < 8), and had ECT approximately once a month. They had undergone a mean of 35 sessions of previous ECT with bilateral placement. Rami-Gonzalez et al. (2003) report there were no differences observed between groups for HDRS and MMSE scores nor were there any significant differences observed on a global level of assessment. However, there was a significant difference in the performance scores observed in the phonetic verbal fluency test, which was inversely correlated to the previous number of ECT. Rami-Gonzalez et al. (2003) conclude that future assessments should consider selective impact of ECT, which may be missed if only global assessment results are considered. Importantly, but not specifically referred to by Rami-Gonzalez et al. (2003), the study highlights, no significant differences on a global level nor were there any differences observed in comparing MMSE scores. Yet, closer and more extensive analysis of their data found a specific effect of ECT on memory. This is an important finding as studies as well as reviews of ECT in the previous chapter invariably highlight global assessment results or MMSE results as proof that cognitive impairment is negligible or non-existent.

Newer methodology enhances understanding of memory deficits found in ECT. Shah et al. (1998) studied a group of patients with chronic unipolar depression who were compared to a group who had never been depressed and a group who had previously been depressed. Using a battery of neuropsychological tests as well as MRI, the authors report MRI tests (using voxel based analysis) showed the two depressed groups had reduced grey matter over large areas of the left temporal neocortex and left anterior hippocampus; comparisons between both groups suggested there were no significant differences. In the group with unipolar

depression, test results also indicated a positive correlation between density of left hippocampus grey matter and recall of previously learned verbal material. However, when the number of ECT was taken into account, there were significant correlations in the neocortical regions extending over the temporal and frontal lobes. In another study, Shah et al. (2002) found patients who were diagnosed with chronic depression had right fronto-striatal atrophy detectable by MRI (voxel-based analysis), and due to the high correlation with ECT, were unable to exclude the possibility that these changes were due to the cumulative effect of ECT.

Right Unilateral ECT versus Bilateral ECT

Fromm-Auch (1982) reviewed the literature in the area from the previous 16 years. Twenty-two studies were included in the review and these studies included quantitative measurements pre- and post-ECT. Even though a variety of methodology, techniques and tests was employed, several trends emerged. Impairments were noted in non-verbal memory functions in patients who had undergone less than five unilateral (non-dominant) ECT but improvements were noted after more than five. Fromm-Auch (1982) suggests this may be related to an improvement in depressive symptoms. However, overall, the trends suggested there were consistent impairments in verbal functions in unilateral dominant ECT and impairments in verbal and non-verbal memory functions in bilateral ECT.

An important study in the area of ECT related memory loss was conducted some years ago. Squire and Slater (1978) studied psychiatric patients who had undergone ECT for a variety of psychiatric disorders. Of these patients, a majority had never undergone ECT before the study and some had ECT between one and 15 years earlier. Treatment allocation into unilateral and bilateral ECT was decided by the treating psychiatrists and therefore not random. A control group of randomly selected psychiatric patients was tested before undergoing ECT. The ECT schedule was three times per week for all individuals. Two memory tests were used, each having a verbal and non-verbal component. Squire and Slater (1978) report bilateral ECT was found to affect the ability to retain verbal and non-verbal material, whereas, right unilateral ECT had a negative impact on the ability to retain non-verbal material, without affecting memory for verbal material. Overall, the impairment seen in non-verbal material in right unilateral ECT was less than that seen in bilateral ECT. In spite of the lesser impact, the authors caution unilateral ECT is still associated with memory deficits and not without risk of memory impairment.

The caution of Squire and Slater (1978) resonates in a recent study. Adler and Achenbach (2001) tested depressed patients who were undergoing right unilateral ECT. The ECT schedule was three times per week within a course of between eight and 10 treatments. The authors devised a test using paper cards that had four pieces of information: a word (with positive or negative connotation), a two-figure number, a figure and the colour of the card (five colours were used). The cards were shown to the patients for a minute with the instructions they were to learn the four pieces of information. Each morning the information from the previous day's card was recalled first, prior to presenting the new stimulus. The cards were shown everyday for two weeks. Depressive symptoms on the HRDS showed a reduction in scores for all patients during the course of ECT. Adler and Achenbach (2001) report there was a high frequency of verbal perseverations in the recall of words, numbers and colours. This was particularly pronounced for the oldest member of the group (aged 83). The authors note, these findings may be suggestive of dysfunction of the frontal lobes. They add, forgetfulness of previously learned material is detrimental to patients in their everyday life and should not be minimised. Although small, the study demonstrates that minimum numbers of right unilateral ECT influence cognitive functioning even in the absence of depression.

Long-Term Effects of ECT

Advocates of ECT assert cognitive side effects are transient (Abrams, 1997; Endler & Persad, 1988; Fink, 1999) but research indicates otherwise. Studying a group of individuals who previously underwent ECT and were complaining of permanent memory problems, Freeman, Weeks and Kendell (1980) matched these individuals to controls (who were not psychiatric patients) on a battery of 19 cognitive tests. The results indicated ECT patients were significantly impaired on eight tests. For example, they were slower than controls, had poorer retention, could not remember a spoken paragraph as well and could not put names to faces as well as the controls. Essentially, deficits matched their qualitative complaints. More importantly, Freeman et al. (1980) examined individual data and found scores in some tests indicated large deficits with some individuals scoring into the organic range. The authors report in a number of patients there was no external explanation for their deficits nor did they have differences in their ECT history. Notable in this study are the difficulties experienced by individuals when one takes into account the length of time after last ECT. It was an average of 10 years for individuals recruited

through an advertisement in the newspaper, and between nine months and 30 years for those who entered the study after complaining to their psychiatrists.

Squire and Slater (1983) studied individuals who had undergone unilateral and/or bilateral ECT in a prospective study conducted three years post-ECT. The study included a control group of inpatients with depression. Using a self-rating memory scale, individuals were tested pre-treatment and then asked to rate their memory performance at several different time points post-treatment. Pre-ECT scores were similar for the control group and for the group who later underwent ECT. At one week post-ECT, individuals who had bilateral ECT rated their memory was poorer than the control group and the unilateral ECT group. At seven months, although somewhat improved from one week post-ECT, the ECT group, regardless of whether they had unilateral or bilateral ECT, continued to report memory problems. At three years, the self-reports of memory problems for the bilateral ECT group were similar to what was reported at seven months. Of note, they had difficulty remembering the period spanning six months pre-ECT and two months post-ECT. Subjected to objective tests, overall, the results indicated 55% of the ECT group continued to experience memory problems three years post-ECT. In recent years, Sobin et al. (1995) found ECT patients scored poorly on the Autobiography Memory Interview two months post-ECT. These scores were not influenced by unilateral or bilateral placement. McElhiney et al. (1995) found similar results in patients two months post-ECT. Individuals were no longer depressed but, unlike the findings of Sobin et al. (1995), suffered a greater degree of cognitive impairment if they had undergone bilateral ECT under higher stimulus intensity.

Frequency of ECT – ECT Schedule Twice a Week versus Three Times a Week

There is no absolute limit how many courses of ECT an individual can undergo over a lifetime but ECT frequency, that is, the weekly schedule, has come under focus in the last decade or so. Prior to this, in the absence of clear evidence, the number of treatments per week was largely based on the clinician's preference rather than theoretical knowledge (Scott & Whalley, 1993). A clear example of earlier practice involves the use of unmodified ECT given five times a day for three days to a 15 year old girl (Rey & Walter, 1997). Staff at the University of Louisville School of Medicine (1985) report a case of 1 250 recorded ECT over a 26 year old period in a case study, which included unsubstantiated reports of additional 800 ECT given to the same woman. Barnes, Hussein, Anderson and Powell (1997) report a case study

of 400 ECT being administered to a 74 year old woman whose records could be traced to 1975 but had a 10 year history of hospitalisation prior to that time.

It has been suggested frequency of ECT per week influences outcome (Vieweg & Shawcross, 1998) and is an important aspect to consider when examining the risk/benefit ratio of the procedure (UK ECT Group, 2003). Shapira et al. (1998) allocated patients with depression into two groups with one group undergoing bilateral ECT three times per week (course n = 8 ECT) and another group undergoing bilateral ECT twice a week plus one simulated ECT (course n = 12 ECT). Patients were assessed on the HDRS pre-ECT and then on the morning of each treatment regardless whether it was real ECT or simulated ECT. Assessment of cognitive function was carried out using a battery of anterograde memory tests, retrograde memory tests, word fluency and MMSE. Patients and raters were blind to treatment allocation. Cognitive testing was done pre-ECT, one day after the eighth ECT and at one month follow-up. The results indicate there were no significant differences between groups at baseline. However, there were significant differences in paired associated recall, recognition, personal memory and memory for famous events. For patients who underwent ECT three times per week, post-ECT scores were significantly worse for tests involving personal memory for neighbours, friends, last birthday, last Passover, last hospitalisation and personal memory. As well, scores for personal memory for current hospitalisation along with word fluency by category were also significantly worse than the group having ECT twice a week. These deficits could not be attributed to depression, as patients who were deemed to have responded to ECT had a reduction of 50% in their HDRS scores from baseline. Given no clear benefits in depressive symptoms when ECT is given three times a week compared to two times a week, the authors caution the former schedule is of little value especially when it results in increased severity of cognitive impairment.

Summary

Newer studies and technology have put to rest the arguments whether memory related side effects are related to depression or ECT. Further, more recent findings support views that ECT causes structural changes in the brain and neurophysiological studies suggest these changes may be responsible for the difficulties ECT patients have with memory functioning. Notwithstanding the challenges of an immense body of literature and conflicting views on the subject, it is clear that ECT affects memory in a specific way. Anterograde amnesia and retrograde amnesia are side effects of

ECT and studies conducted one week, one month, six months and several years post-ECT, indicate deficits are not transient. Importantly, these deficits are not only independent of clinical status but they are a different phenomenon to cognitive dysfunction related to depression. Declarative verbal learning and verbal memory are spared during depression. However, declarative memory is impaired after ECT and bilateral ECT produces cognitive impairment of greater severity than right unilateral ECT. Although the severity of side effects after right unilateral ECT is less than bilateral ECT, the procedure always affects cognitive functioning. ECT given twice a week produces less cognitive impairment than three times a week. The lesser impact of right unilateral ECT coupled with ECT given twice a week does not mean the side effects are minimised. Firstly, the occurrence of this mode of administration and frequency is rare; individuals are usually switched over to bilateral ECT during a course and ECT is generally given three times a week. But as Adler and Achenbach (2001) highlight even a minimum of eight right unilateral ECT produces deficits suggestive of frontal lobe dysfunction.

Finally, the assessment of cognitive functioning post-ECT using the MMSE is inadequate. ECT affects memory in a specific manner and can be overlooked in a global assessment of memory functioning. Butters, Delis and Lucas (1995) describe memory as a constellation of cerebral systems. Earlier studies in the literature have failed to appreciate this complexity. The array of standardised instruments for assessing memory disorders is wide but not without limitations (Butters et al., 1995) but nonetheless, few studies have used standardised tests and by and large, studies have generated their own tests, the psychometric properties of which are unknown. Although most studies include controls, the latter point undermines, and may even underestimate, the severity of cognitive dysfunction post-ECT.

In closing, the amnesic syndrome is the inability to recall new information (anterograde amnesia) and the loss of information prior to the cerebral insult (retrograde amnesia) (Kapur, 1999). The latter is highly variable in individuals and has many facets to it. For example, one may remember an event but have difficulty recalling who participated in the event (Kapur, 1999). These subtleties have posed unique challenges in assessing memory related problems following ECT, but nonetheless, the body of literature produces some consistencies. The consistencies are: memory problems post-ECT are different to those associated with depression; declarative memory is impaired; both unilateral and bilateral ECT produces cognitive

side effects but the severity is greater after bilateral ECT; new learning and encoding is compromised during M-ECT; and ECT given three times a week produces more cognitive impairment than twice a week. And, finally, ECT undeniably produces anterograde and retrograde amnesia, and as demonstrated in studies assessing memory function at endpoints ranging from one week to three years (and more), is an iatrogenic side effect that does not resolve within a few days.

CHAPTER SIX

The primary aim of the pilot study was to elicit feedback on the newly developed questionnaire and the secondary aim was to test the psychometric properties. The procedure and results for the pilot study are presented in this chapter.

Development of the ECT Knowledge and Attitude Questionnaire for Psychologists

Previous questionnaires on knowledge of, and attitudes towards ECT were consulted and deemed unsuitable due to poor psychometric properties (Gass, 1998; Janicak et al., 1985); primary focus on medical content (Lutchman et al., 2001) and patient satisfaction (Goodman et al., 1999); and, failure to define 'knowledge' operationally (Ghaziuddin et al., 2001). Therefore, a new questionnaire, the ECT Knowledge and Attitude Questionnaire for Psychologists (see Appendix 1), was constructed using some of the themes broadly referred to in other surveys of mental health professionals (Ghaziuddin et al., 2001; Janicak et al., Lutchman et al., 2001) with correct answers for items being supported by evidence-based literature. As the minimum number of categories is not prescriptive but between five and seven categories is recommended (Streiner & Norman, 2000), it was deemed appropriate to extend the range to a maximum of five categories for the pilot study. Demographic information and details of clinical experience were also included in the questionnaire. 'Knowledge' consisted of 20 items spanning general knowledge, knowledge about amnesic side effects and psychological sequelae of ECT. In addition, five items made up the 'Attitudes' component of the questionnaire. Items were coded on a Likert-type scale where Strongly agree =5, Agree = 4, Neither agree nor disagree = 3, Disagree = 2 and Strongly disagree = 1. To minimise the occurrence of what de Vaus (1995) refers to as 'acquiescent response set' items 4, 8, 9, 10, 13, 14, 15, 16 and 20, 21, 22, 23, and 25 were reversed coded. There was no numerical value assigned to the response categories and coding facilitated breakdown of frequencies. A section was provided for respondents to make additional comments. A legend was included at the top of the questionnaire explaining ECT terminology such as bilateral ECT, unmodified ECT and so on.

Ethics approval was sought and granted from the Edith Cowan University Ethics Committee to undertake the study. Psychometric properties related to reliability and validity of the questionnaire was established using conventional procedures (de Vaus, 1995). This was achieved through consultations with an expert panel that consisted of a psychiatrist, mental health nurse educator, a former

occupational therapist and two social workers. All members of the panel were given a draft copy of the questionnaire and asked to contribute and/or comment about the items. All members of the panel were either working in a mental health setting at the time of the study, or had considerable previous experience of working in such a setting. In addition, a mental health consumer who had previously undergone ECT was interviewed after being given a copy of the draft questionnaire. Similar to the contribution of the mental health professionals, the consumer was asked to contribute and/or comment about the items. A letter of introduction was distributed to members of the panel before consultations (see Appendix 2). Signed consent (see Appendix 3) was also obtained from members of the expert panel.

Methodology

Nursing and Postgraduate Psychology Students

After consultations with the expert panel the questionnaire used in the pilot study was distributed to postgraduate psychology students either before or after a lecture. Approval had been obtained from the lecturer involved prior to the distribution and none of the lectures were related to ECT. The questionnaire was also distributed to nursing students who had experienced at least one placement at a mental health setting. Once again the questionnaire was distributed during a lecture that was unrelated to ECT.

Mental Health Professionals Working in an ECT Setting

Finally, approval to distribute the questionnaire to mental health professionals and students on placement (excluding clinical psychologists) working in a setting where ECT is performed routinely was sought from the Clinical Manager of the unit in two hospitals (see Appendix 4). One hospital requested ethics approval from their organisation prior to distribution of the questionnaire; approval was duly sought and granted. There was no contact with mental health professionals in hospitals as distribution within the unit was done in accordance with the practice of the work environment i.e., during staff meetings, and collection was carried out either through post or by collection from the Clinical Manager's office.

Participants of the Pilot Study

The pilot sample consisted of 185 respondents of whom 73% were nursing students, 12% postgraduate psychology students and 14% mental health professionals (excluding clinical psychologists) who work in ECT settings.

The average age of respondents was 29 years. The youngest respondent was 19 years old and the oldest was 60 years. The majority were female (89%) and 11% were male.

Of those who responded, 72% had a degree from an Australian university (or were graduating in 2002) and 17% were graduates from overseas countries. The majority (97%) had experience working with mental health clients and only 2% did not have this experience. Seventy-four percent had experience working with clients who had undergone ECT and 25% did not have experience in this area.

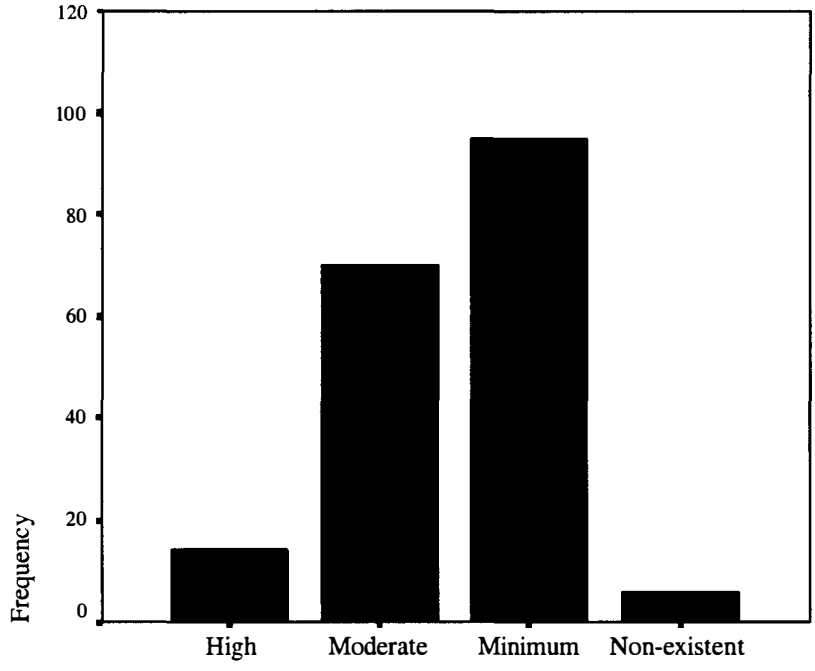

Figure 6.1. Self-rating of ECT knowledge by respondents in the pilot study

Figure 6.1 shows 8% self-rated their ECT knowledge as high, 38% rated it as moderate, 51% as minimum and 3% as non-existent.

Source(s) of ECT Knowledge

In a multiple response format, scientific literature was cited most frequently as the respondents' source of ECT knowledge (35%) followed by colleagues (33%) and clients (19%) (see Table 6.1).

Respondents were also requested to indicate other sources of ECT knowledge and of those who chose this option, 14% cited 'Educator' followed by clinical placement (13%). Only 4% cited they had witnessed an ECT session (see Table 6.2).

Table 6.1

Source(s) of ECT Knowledge Cited by Respondents in the Pilot Study

Source	Frequency	%	Valid %
Movies	22	6.7	13.8
Scientific literature	113	34.6	71.1
Colleagues	107	32.7	67.3
Clients	62	19.0	39.0
Family	9	2.8	5.7
Friends	14	4.3	8.8
Total	327	100.0	205.7
Missing	26		
Total	159 valid cases		

Table 6.2

Other Source(s) of ECT Knowledge Cited by Respondents in the Pilot Study

Source	Frequency	%	Valid %
Not selected	111	60.0	60.3
Educator	26	14.1	14.1
Work in a mental health unit	10	5.4	5.4
Clinical placement	25	13.5	13.6
Peers	2	1.1	1.1
Witnessed procedure	7	3.8	3.8
Internet	1	0.5	0.5
Books	2	1.1	1.1
Total	184	99.5	100.0
Missing	1	0.5	
Total	185	100.0	

Results

Results from the respondents in the pilot study are found in Appendix 5. A breakdown of frequencies from individual groups i.e., nursing students, postgraduate psychology students and staff working in ECT settings is shown in Appendix 6. A breakdown of frequencies from respondents with more than five years experience, less than one year's experience and nil experience in an ECT environment is found in Appendix 7.

With no consensus on sample size for factor analysis (Bryman & Cramer, 1997), a sample of more than 100 participants was deemed satisfactory to conduct an exploratory factor analysis using SPSS for Windows, Version 10.0. To make the distinction between knowledge and attitude, a principal components analysis with varimax rotation was performed on the 25 items but this failed to delineate 'Knowledge' from 'Attitudes' items. Reliability of the scale was examined and results for Cronbach's alpha was low at .56. As several respondents commented on the ambiguity of Item 24, the item was removed. A factor analysis was repeated but results were similar to those reported above. However, removal of Item 24 improved Cronbach's alpha marginally to .60.

Discussion

The majority of the respondents agreed ECT is a psychiatric procedure that involves a medically induced seizure. Fewer respondents agreed that the patient experiences a grand mal seizure. Approximately one-quarter (26%) of the respondents agreed that a patient can undergo unlimited courses of ECT over a lifetime but the majority (71%) of the respondents agreed about the use of maintenance ECT in recurrent major depression. A high percentage (73%) of respondents *correctly* disagreed that only patients who are forced to undergo ECT, fear the procedure. However, there was greater uncertainty about the practice of unmodified ECT, the use of ECT with younger patients, the efficacy of ECT in schizophrenia and depression, the use of ECT with suicidal patients, the distinctiveness of ECT memory loss, the distinction between depression and ECT related memory problems, the persistence of memory loss post-ECT, and the long-term psychological side effects of ECT (see Appendix 5).

The poor results for reliability are perhaps better understood in the breakdown of results (see Appendix 5). Although true variance is enhanced when scores are nearer to the middle (than extremes) (Streiner & Norman, 2000), it is possible the

high percentages of unsure responses for the majority of the items made the pilot sample a homogenous one, thereby reducing variance.

Based on the comments from the respondents in the pilot study, Item 24 was removed from the final questionnaire. Minor changes were incorporated into the layout of the questionnaire, as per feedback from the respondents of the pilot study. Despite the non-emergence of distinct factors following a principal component analysis, reliability and face validity of the items had been established through a consultative process with the expert panel and therefore the study proceeded with the questionnaire. The final questionnaire used in the main study is shown in Appendix 8. Coding for items in the final questionnaire is shown in Appendix 9.

CHAPTER SEVEN

The survey assessed knowledge of, and attitudes towards, ECT of clinical psychologists in Western Australia and incorporated a quantitative and qualitative research design.

Methodology

Mailing Procedure

A mailing list of registered clinical psychologists in Western Australia was requested from the WA Psychologists' Registration Board (see Appendix 10). The list consisted of 511 fully registered and financial members as at 30 June 2003. All names on the mailing list were numbered consecutively and 11 were excluded as they were residing overseas or interstate, leaving a final distribution list of 500. A covering letter (see Appendix 11), the newly developed questionnaire and coded return paid envelope (which matched the numbers on the master mailing list) were mailed in August 2003. On return of the envelopes, the name matching the code on the envelope was crossed off the mailing list. To ensure maximum anonymity of responses, the returned envelopes were opened when batches reached in excess of 20 and the questionnaires were assigned consecutive numbers, which did not match the mailing list. The coding was seen to be necessary as it was initially envisaged a reminder mail out would be sent to those who had not returned their questionnaire, in the event of poor response rates. However, due to a relatively robust response rate this was not undertaken.

Returns

A total of 197 questionnaires was returned which represents a return rate of 39%. Out of 20 country and rural clinical psychologists, seven questionnaires were received representing a 35% return rate from as far north as Broome and as far south as Albany.

Five questionnaires were returned blank. Of these respondents, two declined to participate in the study, one respondent was in retirement and therefore declined, one respondent declined due to lack of time and in one case, there was no explanation provided. Two questionnaires were returned to sender, as the current addresses of the individuals were not known. Of the remaining questionnaires, four were removed due to incomplete or partial completion of the items; there was little information beyond basic demographics.

After taking into account the blank and eliminated questionnaires, the final return rate was 37% amounting to 186 respondents who were included in the data analyses.

Coding of demographics

Data for the items 'Age' and 'Year Graduated' were entered numerically, as reported. Data for 'Year Graduated' were then collapsed into decades starting from the 1960s. All other items under demographics were coded using a consecutively numbered system for example, coding was 1, 2 and 3 respectively, for responses Yes/No/Not Applicable.

Coding of Items – Knowledge and Attitudes

Coding of items, including reverse coding, is shown in Appendix 9.

Qualitative coding

Elicited comments were subjected to content analysis (Miles & Huberman, 1994) to establish major themes.

Statistical Measures

A computer based statistical program, Statistical Program for Social Sciences (SPSS) for Windows Version 11.0 was used to analyse quantitative data. Tables of frequencies, percentages and cross tabulations were generated as well as some descriptive statistics of variance (mean and standard deviation). Where appropriate, inferences were drawn from chi-square analyses.

All raw data were coded and entered into the database by the author. On completion, data screening was undertaken to ensure accuracy.

Ethical Considerations

As previously explained, where possible, every attempt was made in the coding process to protect anonymity. There was no identifying information on the questionnaires except in a few cases, where respondents chose to make that known. At all times, the mailing list and returned questionnaires were kept in a secure facility to maintain confidentiality.

Results

Demographics

Age

The average age of the respondents was 47 years. The youngest respondent was aged 26 and the oldest respondent was 69 years old.

Gender

Sixty-eight percent of the respondents were female and 32% were male.

Qualifications

Approximately 25% did not provide details about their qualifications. Of those who did, 86% reported they had a master's degree and 14% had doctorates. The majority of the respondents (89%) were graduates from Australian universities and 11% from overseas universities. Forty-five percent of the respondents graduated during the decade 1990-1999 and 33% graduated in the decade 1980-1989. Respondents with less than one year's experience or nil experience in an ECT setting were more recent graduates (most having graduated in the decade 1990-1999) and respondents with more than five years' experience in a similar setting were graduates from the previous decade (1980-1989). A breakdown of graduates by experience and decade is provided in Tables 1 to 4 in Appendix 12.

Experience

Information about experience revealed 97% of the respondents' clinical practice included mental health clients. Fifty-nine percent of the respondents had clinical experience with clients who had undergone ECT, however, 37% did not. Approximately one-third of the respondents (33%) had no experience working in an ECT environment, 24% had more than five years' experience, 23% had less than five years' experience, and 19% had less than one year's experience.

Self-rating of ECT Knowledge

All respondents self-rated their ECT knowledge using a four level scale of 'High', 'Moderate', 'Minimum' and 'Non-existent' (see Figure 7.1.)

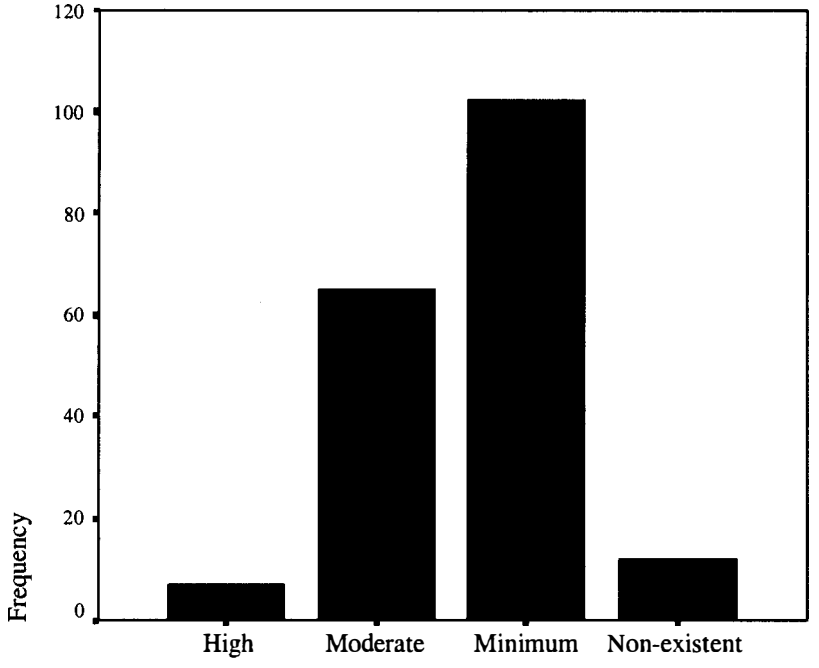

Figure 7.1. Self-rating of ECT knowledge by clinical psychologists (n = 186).

Figure 7.1 indicates only 4% self-rated their ECT knowledge as 'High', 35% rated their knowledge as 'Moderate' and 55% of the all respondents self-rated their ECT knowledge as 'Minimum'; only 6% stated it was 'Non-existent'. Results of self-rating of ECT knowledge for respondents with and without experience of working in an ECT environment are found in Table 5 in Appendix 12.

Source(s) of ECT Knowledge

Results of the source(s) of ECT knowledge (from a multiple response format) of all respondents are presented in Table 7.1 and highlights, colleagues (83%), followed by scientific literature (63%) and clients (55%) were most frequently endorsed categories as sources of ECT knowledge by all respondents.

Results of sources of ECT knowledge for respondents with and without experience are shown in Table 6 in Appendix 12.

Respondents were also invited to provide more information about the source (or sources) of ECT knowledge under the category 'Other'. A large percentage (77%) of respondents (n = 186) did not choose this option and overall, 6% reported they had witnessed an ECT session, 5% cited university lectures, 3% reported popular press as additional sources of ECT knowledge and less than 1% cited the Internet (see Table 7 in Appendix 12).

Table 7.1

Sources of ECT Knowledge Cited by Clinical Psychologists

Sources of ECT Knowledge for Clinical Psychologists (n = 174)		
Category	Count	% of Cases
Movies	25	14.4
Scientific Literature	110	63.2
Colleagues	144	82.8
Clients	95	54.6
Family	13	7.5
Friends	13	7.5
Total	400	229.9

Reliability

Reliability was examined and results for Cronbach's alpha was .68.

Knowledge

Items 1 to 20 were re-coded and collapsed into three categories of Agree, Disagree and Neither agree nor disagree (see Appendix 9). Results from clinical psychologists in the form of frequencies are provided in Appendix 13 for individual items in the questionnaire. In addition, responses for individual items from respondents with more than five years' experience, less than one year's experience and nil experience in an ECT environment, are found in Appendices 14, 15 and 16 respectively. A breakdown of frequencies comparing responses for Items 1 to 20 from all respondents, as well as clinical psychologists with experience and nil experience in an ECT setting can be found in Appendix 17.

General Knowledge

As Items 3, 4, 5, 9 and 10 had a high percentage of respondents who were unsure (33%, 45%, 30%, 29% and 40% respectively) and 56% of the respondents *incorrectly* disagreed with the statement that a patient can undergo unlimited courses of ECT over a lifetime (Item 6), (see Appendix 13), the data were subjected to further analyses. As previous studies have reported experience increases knowledge

(Gass, 1998), further exploration of the results from respondents with more than five years' experience in an ECT setting and those with nil experience in a similar environment, seemed appropriate. Chi square analyses were carried out on Items 3, 4, 5, 9 and 10 to examine the relationship between knowledge and work experience in an ECT setting.

Item 3 reached significance, $\chi^2(2,N = 105) = 18.642$, $p < .05$ and results in Table 7.2 shows that more respondents with nil experience compared with those who had more than five years' experience in an ECT setting, were unsure about patients experiencing a grand mal seizure during ECT (Item 3).

Table 7.2

Table of Frequencies Showing the Relationship Between Knowledge and Experience for Item 3.

	> 5 Years	Nil	Total
Item 3			
Agree	28 (19)	17 (26)	45
Neither agree nor disagree	5 (15)	30 (20)	35
Disagree	11 (10)	14 (14)	25
Total	44	61	105

The results of chi square analysis also reached significance for Item 6, χ^2 (2,N = 105) = 8.848, $p < .05$ and results are found in Table 7.3 where it is evident that more respondents with nil experience in an ECT environment disagreed that a patient could undergo unlimited courses of ECT over a lifetime, compared with respondents with more than five years' experience.

Table 7.3

Table of Frequencies Showing the Relationship Between Knowledge and Experience for Item 6.

	> 5 Years	Nil	Total
Item 6			
Agree	17 (11)	9 (15)	26
Neither agree nor disagree	8 (9)	13 (12)	21
Disagree	18 (24)	40 (34)	58
Total	43	62	105

Cognitive Side-Effects

Results for all respondents, as well as scores from clinical psychologists who had experience and those with nil experience of working in an ECT environment, can be found in Appendices 13, 14, 15 and 16. A breakdown of responses comparing individuals with and without experience can be found in Appendix 17.

With the exception of Item 11, examination of the data from all respondents indicated, Items 12 to 17 had large percentages of responses under the category 'neither agree nor disagree' (36%, 32%, 38%, 49%, 47%, and 34%) (see Appendix 11).

A two-way chi square analysis revealed a significant relationship between experience and knowledge for Items 13, χ^2 (2,N = 106) = 10.112, p < .05 and results in Table 7.4 highlights more respondents who had in excess of five years' experience in an ECT environment (*incorrectly*) agreed that persistent memory related side effects post-ECT are more likely due to depression compared to respondents with nil experience.

Table 7.4

Table of Frequencies Showing the Relationship Between Knowledge and Experience for Item 13.

	> 5 Years	Nil	Total
Item 13			
Disagree	23 (23)	31 (31)	54
Neither agree nor disagree	10 (15)	26 (21)	36
Agree	12 (7)	4 (9)	16
Total	45	61	106

Chi square analysis reached significance for Item 14, χ^2 (2,N = 106) = 6.417, $p < .05$ and Table 7.5 shows more respondents with nil experience in an ECT setting were unsure whether or not memory related side effects after modified ECT disappear after a few days compared with respondents who had in excess of five years' experience in an ECT setting.

Table 7.5

Table of Frequencies Showing the Relationship Between Knowledge and Experience for Item 14.

	> 5 Years	Nil	Total
Item 14			
Disagree	17 (13)	14 (18)	31
Neither agree nor disagree	12 (18)	31 (25)	43
Agree	16 (14)	16 (18)	32
Total	43	62	105

Chi square analysis also reached significance for Item 17, χ^2 (2,N = 106) = 7.258, $p < .05$ and Table 7.6 shows more respondents with nil experience in an ECT setting were unsure whether or not memory related side effects can last for years

after ECT, compared with respondents who had in excess of five years' experience in an ECT setting.

Table 7.6

Table of Frequencies Showing the Relationship Between Knowledge and Experience for Item 17.

	> 5 Year	Nil	Total
Item 17			
Disagree	8 (5)	4 (7)	12
Neither agree nor disagree	11 (17)	29 (23)	40
Agree	26 (23)	28 (31)	32
Total	43	62	105

Psychological Side-Effects

Results for all respondents, as well as scores for clinical psychologists who had experience and those with nil experience of working in an ECT environment, can be found in Appendices 13, 14, 15 and 16. A breakdown of frequencies comparing responses from individuals with and without experience can be found in Appendix 17.

A high percentage of respondents (39%) were unsure whether or not long-term psychological distress could be a side effect of ECT and a two-way chi-square revealed a significant relationship between experience and knowledge for Item 19, χ^2 (2,N = 106) = 8.654, p < .05. The results in Table 7.7 shows more respondents (who had in excess of five years' experience in an ECT setting) *incorrectly* disagreed about the long-term distress associated with undergoing ECT.

Table 7.7

Table of Frequencies Showing the Relationship Between Knowledge and Experience for Item 19

	> 5 Year	Nil	Total
Agree	22 (20)	25 (27)	47
Neither agree nor disagree	14 (20)	33 (27)	47
Disagree	9 (5)	3 (7)	12
Total	45	61	106

Knowledge of ECT – Findings From the Survey

Data were re-coded (see Appendix 9) to assign a figure of 1 to correct answers and 0 to incorrect or unsure answers. Scores were then summed to generate an overall total score for knowledge of ECT (maximum score = 20). Due to scores being represented more frequently in the middle of the distribution (see Figure 7.2), the total score was divided into thirds. The scores were then assigned into three categories ranging from 'High' (scores between 14-20), 'Moderate' (scores between 7-13) and 'Low' (scores between 0-6). The results are reported in Figure 7.3.

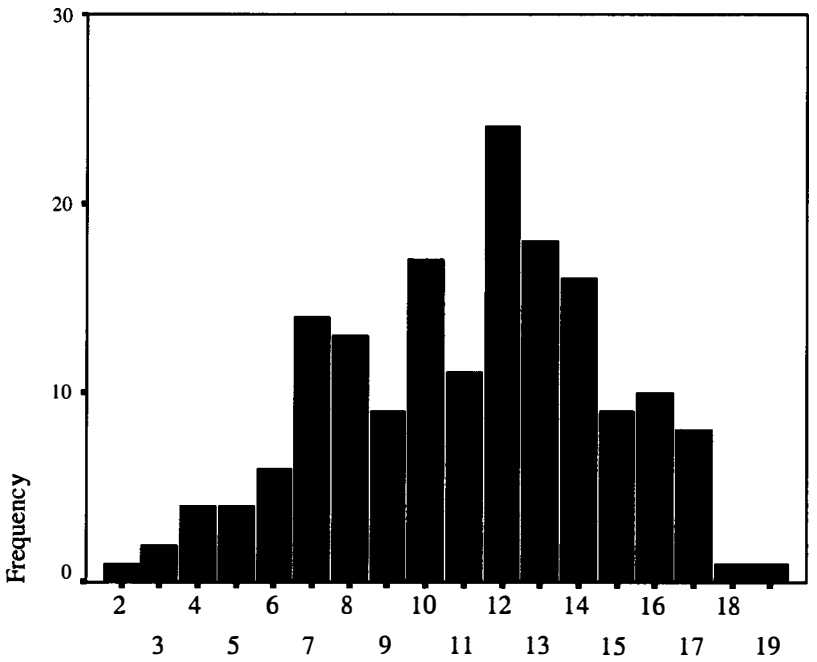

Figure 7.2. Distribution of total scores for ECT knowledge (Items 1 to 20) for clinical psychologists (n = 168).

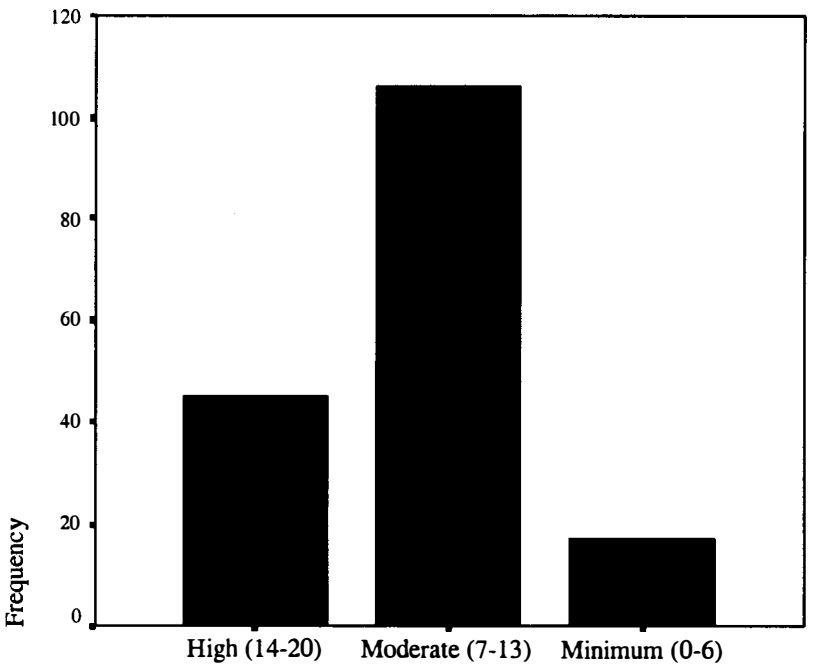

Figure 7.3. Total scores for ECT knowledge (Items 1 to 20) for clinical psychologists (n = 168).

Figure 7.3 highlights that, 27% of clinical psychologists had scores in the high range, (scores between 14 and 20), 61% had scores within the 'Moderate' range

(scores between 7 and 13), and 10% had scores in the 'Minimum' range (scores between 0 and 6).

Breakdown of results of respondents with experience and nil experience of working in an ECT environment can be found in Table 8 in Appendix 12.

Attitudes

Items 21 to 24 were reversed coded as shown in Appendix 9. Frequencies for individual items (Items 20 to 24) for clinical psychologists can be found in Appendix 18. Appendices 19, 20 and 21 show scores for groups who had experience, and those with nil experience of working in an ECT environment. Appendix 22 shows comparison of scores for attitudes between clinical psychologists with experience and nil experience in an ECT setting.

The relationship between experience and acceptance of ECT as a treatment option (Item 22) was examined using chi square analysis and the results reached significance, χ^2 (3,N = 106) = 9.546, $p < .05$. Results in Table 7.8 shows more respondents (who had in excess of five years' experience in an ECT environment) agreed to undergo ECT if recommended by their treating doctor, than respondents with nil experience.

Table 7.8

Table of Frequencies Showing the Relationship Between Experience and Attitude for Item 22

	> 5 Year	Nil	Total
Agree	9 (5)	3 (7)	12
Neither agree nor disagree	14 (11)	12 (15)	26
Disagree	9 (13)	21 (17)	30
Strongly disagree	13 (16)	25 (22)	38
Total	45	61	106

Due to the high percentage of females in the sample, the relationship between gender and Item 22 was examined using chi-square analysis. The results did not reach significance.

Qualitative Findings

The respondents were invited to provide comments about their professional experience with clients who have undergone ECT. In particular, respondents were invited to comment on therapeutic issues related to supporting these clients. Forty percent of the respondents (n = 185) responded to this request and commented on a range of issues (see Appendix 24.)

Analysis of the qualitative data was conducted using a cross-case approach (Miles & Huberman, 1994). The comments were first transcribed into one document with each contribution consecutively numbered (see Appendix 23). Secondly, as respondents were requested to comment on their professional experience with clients who have undergone ECT, and in particular, therapeutic issues related to supporting these clients, major themes relating to practice issues were extracted by highlighting the core issue/s cited in the comment. One of the first major themes to emerge related to side effects of ECT. Contributions from each of the respondents were examined and it became clear the comments clustered under two major themes: psychological side effects and cognitive side effects. Following this process the contributions were examined once again and the next theme to emerge related to the lack of options offered to clients. This process of examination was repeated until all major themes had been identified. The author and a social worker experienced in qualitative research undertook this process. Themes were compared after independent reviewing of the data. After minor nomenclature adjustment to one theme, high consensus was reached between the author and reviewer.

Results of Qualitative Data

Five major themes related to practice issues emerged from the qualitative contribution of 75 respondents (see Appendix 24). The major themes were psychological side effects of ECT; cognitive side effects of ECT; lack of options for clients; views on ECT and lack of ECT knowledge.

Discussion of the quantitative and qualitative results of the main study is undertaken in the following chapter.

CHAPTER EIGHT

When compared to other mental health professionals, studies report psychologists have poor knowledge of ECT and are generally negative towards the procedure (Ghaziuddin et al., 2001, Janicak et al., 1985, Lutchman et al., 2001). In light of previous findings, the aims of the study were to assess the knowledge of ECT and attitudes towards the psychiatric procedure of registered clinical psychologists in Western Australia. The survey found a high number of the respondents rated their knowledge as being minimal with a minority rating their ECT knowledge as high. However, when assessed with a questionnaire constructed with items from evidence-based literature, approximately one-quarter had ECT knowledge scores that placed them in the high range and a minority had scores in the low range. Overall, similar to findings in other studies (Gass, 1998, Ghazihuddin et al., 2001, Janicak, et al., 1985, Lutchman et al., 2001), attitudes of clinical psychologists, were generally negative. Implications for these findings as well as uncertainty and/or deficits in knowledge about some aspects of ECT are discussed in this chapter.

Sample Characteristics

A robust response rate was obtained from respondents in the metropolitan region as well as rural and country Western Australia. Predominantly female, the respondents were generally older. Nearly one-half of the respondents had graduated in the previous decade, with the majority of respondents with more than five years experience in an ECT setting having graduated earlier (in the decade 1980-1989) and those with less than one year's experience or nil experience in an ECT setting having graduated more recently (1990-1999). These aspects of the sample add an important dimension to the currency of findings related to ECT knowledge and relevancy of attitudes.

Experience is an important demographic to examine with mental health professionals as it reportedly increases knowledge of ECT and influences attitudes towards the procedure (Gass, 1996). Nearly all respondents in this study had clinical experience working with mental health clients and more than half had experience working with clients who had undergone ECT. A smaller percentage had more than five years' experience working in an ECT setting while approximately one-third of the respondents had nil experience. Given an overall sample of experienced clinicians, examination of the source(s) of ECT knowledge produced some interesting results.

It has also been suggested popular media promote negative attitudes towards psychiatric interventions (Rosen et al., 1997). Although the survey found respondents were largely negative towards ECT, only a minority cited movies as their source of ECT knowledge and unlike the sample surveyed by Lutchman et al. (2001), only a few individuals had witnessed an ECT session. Instead, colleagues, scientific literature and clients were most frequently identified as source(s) of ECT knowledge. For example, all respondents cited colleagues most frequently as their source of ECT knowledge but a breakdown of figures revealed a higher percentage of responses for respondents with more than five years' experience in an ECT setting. Of interest, respondents with nil experience in an ECT setting cited scientific literature more frequently than respondents who had this experience.

General Knowledge of ECT

The survey found the majority of respondents agreed ECT is a psychiatric procedure that involves a medically induced seizure (see Items 1 and 2 in Appendix 13). Respondents were also aware of some of the clinical indicators for ECT and correctly disagreed that it is an effective treatment for schizophrenia (Item 8). Approximately two-thirds of the sample agreed that maintenance ECT is used for recurrent major depression (Item 7). Of note, there were more incorrect answers than correct or unsure answers about there being no limit as to how many courses of ECT a patient can undergo in a lifetime (Item 6). On the other hand, respondents were less sure about the magnitude of the ECT seizure (Item 3). As well, they were unsure about wider practice issues such as the use of ECT with patients under the age of 18 years (Item 5) and the practice of unmodified ECT in other parts of the world (Item 4). There was also uncertainty about the role of ECT in preventing suicide (Item 9) and the efficacy of ECT in major depression (Item 10), with marginally more unsure responses than correct answers for the latter item (see Appendix 13).

Closer examination of the data revealed that questions related to more specific details about ECT produced uneven results from experienced respondents and from those with nil experience (see Appendix 17). For example, more respondents with nil experience were unsure about the magnitude of ECT seizures (Item 3) and were incorrect in their disagreement that a patient can undergo unlimited courses of ECT over a lifetime (Item 6). As issues such as seizure magnitude and number of courses are more likely to be encountered in psychiatric settings, it is not surprising that more respondents with experience endorsed these statements correctly than those with nil

experience in an ECT setting (39% and 29% versus 15%). However, although examination of the relationship between experience and knowledge reached statistical significance for Item 6, the raw data for this and other items (see Appendix 17) warrant further discussion.

Although guidelines suggest between 6-12 sessions constitute a course of ECT, there are no limits as to the number of ECT courses a patient can undergo over a lifetime (APA, 1990). The guidelines also recommend the use of ECT as a first line treatment option if the patient has reportedly undergone a previous successful course of ECT. While analysis revealed a statistical difference in the category 'Disagree' for respondents with nil experience, a breakdown of raw data for Item 6 (Appendix 17) suggests this is an area of knowledge deficit for all respondents. A high percentage of respondents with more than five years' experience in an ECT setting *incorrectly* disagreed (42%) that a patient can undergo unlimited courses of ECT over a lifetime as well as 66% of respondents with less than one year experience and 64% of respondents with nil experience.

Nevertheless, the breakdown of raw data, as outlined above, suggests the findings of high percentages of incorrect answers from respondents with experience or without experience give rise to some possibilities. Firstly, perhaps the statement was ambiguous. However, given only two respondents commented about the ambiguity of some of the items in the questionnaire (See Appendix 23, Nos. 35 and 56), the suggestion of knowledge deficit among all respondents is a valid one, as the distinction between multiple courses of ECT and maintenance/continuation ECT is quite clear in the literature. Another possibility could be that respondents with experience in an ECT setting were reporting on work place practices. However, the view that suggests this is an area of knowledge deficit is supported by data that indicate a high number of respondents, regardless of experience, identified scientific literature as their source of ECT knowledge and major reviews have reported patients have undergone multiple courses of ECT (Cutajar & Wilson, 1999; Fox, 2001; Rey & Walter, 1997). So regardless of work place practices, the high number of incorrect responses suggests this is an area of knowledge deficit.

Reduction of depressive symptoms following ECT (using objective measurements) are reported to last no longer that three days (Prudic et al., 1996) and placebo-controlled studies have reported post-ECT relapse rates are very high (Sackeim et al., 2002). A breakdown of raw data for Item 10 revealed some

interesting results (see Appendix 17). Surprisingly approximately 20% of respondents with more than five years' experience in an ECT setting *incorrectly* endorsed the efficacy of ECT in depression (Item 10). Once again, it is possible experienced clinicians are reporting on work place practices rather than having knowledge which is based in research evidence. Conversely, as relapse rates following ECT are widely published in ECT literature, these results suggest this is an area of knowledge deficit for nearly one-quarter of all respondents (see Appendix 13).

ECT is promoted as a life-saving option (Abrams, 1997; Endler & Persad, 1988; Fink, 1999; Frankel, 1978). An extensive review of the literature found no convincing evidence of the positive influence of ECT on long-term outcomes of suicide risk (Sharma, 2001). Therefore it is of concern that nearly a quarter of all respondents *incorrectly* agreed that ECT prevents suicide (Item 9). This finding is echoed in results from experienced respondents where one third was incorrect in their response; these findings strongly suggest this is an area of knowledge deficit. Once again, as acute suicide risk is seen as a clinical indicator for ECT (APA, 1990) and reportedly there is a reduction in depressive symptoms in the immediate post-ECT period (Prudic et al., 1996), it is possible these findings may reflect work place practices for respondents with experience. On a positive note, as respondents with nil experience had similarly high percentages of correct scores as respondents with more than five years experience (see Appendix 17), these findings also suggests there is a greater awareness among clinicians (experience and non-experienced) of knowledge that is mirrored in research findings.

Unmodified ECT is widely practiced in some parts of the world such as India (Mudur, 2001) and Nigeria (Eranti & McLoughlin, 2003). A recent study also found people from non-English speaking backgrounds in Western Australia undergo ECT more frequently than Caucasian patients (Teh, 2004). Therefore, wider knowledge of ECT practice is important in a multicultural society such as Australia. Although the results did not reach significance, the breakdown of data found a higher percentage of respondents with more than five years experience in an ECT environment *incorrectly* agreed that unmodified ECT is no longer practised in other parts of the world and *incorrectly* disagreed that ECT is also practised with patients under the age of 18 years; *incorrect* figures were higher than those obtained from respondents with nil experience (see Items 4 and 5 in Appendix 17). As both these

issues are published in mainstream literature, the results may reflect either a wider knowledge base of current literature for respondents with nil experience in an ECT setting and/or it may suggest deficits in knowledge for respondents who worked (or work) in an ECT environment, about issues that do not affect everyday clinical practice.

Knowledge of Cognitive Side Effects

Respondents with nil experience in an ECT setting were generally unsure about many of the items related to cognitive side effects (Appendix 17). Overall, more respondents *correctly* agreed that ECT causes some permanent memory loss, compared to those who disagreed or were unsure (See Item 11). On the other hand, all respondents were less sure about the distinctiveness of ECT memory loss (Item 12), and whether or not persistent memory related side effects post-ECT, are more likely due to depression (Item 13). Likewise, they were unsure about the persistence of memory related side effects after modified and unmodified ECT, as they were about side effects following unilateral ECT (Items 14, 15 and 16) (see Appendix 13). These results are better understood by examination of the breakdown of results for respondents with experience and nil experience (see Appendix 17).

An examination of the relationship between experience and knowledge revealed more respondents with experience (in excess of five years) in an ECT environment *incorrectly* agreed that persistent memory related problems post-ECT is more likely due to depression (Item 13) than respondents with nil experience in an ECT setting (Appendix 17). This is of concern. The link between memory functioning and depression goes back several decades (Stromgren, 1977) and research findings report that ECT and depression have different influences on memory functioning (Steif et al., 1986). Therefore, it is not clear whether respondents with experience in an ECT setting are reporting a deficit in knowledge or the lack of improvement they may have observed in patients in a clinical environment. Of note, respondents with more than five years' experience in an ECT setting and those with nil experience were on par for correct responses (51% respectively) and those with less than one year's experience in an ECT setting having the highest percentage of correct responses (61%) for Item 13.

However, the suggestion of knowledge deficit for respondents with more than five years' experience in an ECT setting is supported by findings in Items 14 and 15. These items highlight more respondents who had in excess of five years' experience

in an ECT setting also agreed (*incorrectly*) that memory related side effects after modified ECT disappear after a few days (Item 14). More of these respondents were also *incorrect* when compared to respondents with nil experience in endorsing that only unmodified ECT produced persistent memory related side effects (Item 15).

Although deficits in knowledge (or unsure responses) regarding cognitive side effects are also found in respondents with nil experience in an ECT setting, they are, nevertheless, alarming findings in experienced professionals. Mental health professionals working in ECT settings may be called on to offer support to patients undergoing ECT. Providing inaccurate information not only undermines their role as a therapist, but goes against the guidelines for offering accurate information to consumers as outlined by the NHMRC (1999) which state quite clearly that it is inappropriate to inflate benefits and minimise risks. The findings in this study suggest knowledge deficits in experienced clinicians about cognitive side effects of ECT have the potential for clinicians to practise outside the recommended NHMRC guidelines.

An examination of the raw data (see Appendix 17) also highlights that a greater percentage of respondents with less than one year's experience in an ECT setting were more knowledgeable about the difference between ECT related and depression related memory (dys)functioning, than the other respondents (Item 13, Appendix 15). They also had a marginally higher percentage of responses in *correctly* disagreeing that only unmodified ECT causes memory-related side effects that can persist for years after ECT. One explanation for these findings may be that clinical psychologists with less than one year's experience in an ECT setting may be working in environments where they see ECT clients for extended periods of time compared to clinicians who work in an inpatient setting (and therefore see patients for shorter periods of time). Clinicians with less experience in an ECT setting would therefore have a better understanding or knowledge about the persistence of memory-related side effects post-ECT. This view is supported in the qualitative findings of the study. A major theme under outcomes of ECT relates to clients experiencing memory problems post-ECT. These reports of outcomes are often intertwined by reports of client disempowerment suggesting clinicians were seeing clients in a longer-term capacity.

Although, in some instances, the majority of respondents with nil experience were unsure about their responses, they generally had fewer *incorrect* answers than

experienced respondents. On one hand the high number of unsure findings in the group with nil experience is not surprising given their lack of exposure to clients who have undergone ECT. However, responses of respondents with more than five years' experience in an ECT environment who did not know that ECT and depression impact cognitive functioning differently and were more likely to report that (modified) ECT related memory side effects disappear after a few days, have real implications for clinical practice. These deficits, once again, have the potential to provide misinformation to clients and prevent, or at the very least, reduce empathic understanding of the client's perspective.

Psychological Side Effects

The survey found, overall, more respondents had correct scores for knowledge of the psychological side effects of ECT than they did for general knowledge or knowledge of cognitive side effects (see Appendix 17).

High percentages of all respondents agreed that ECT related memory loss can be a source of psychological distress and *correctly* disagreed that only patients who are forced to undergo ECT fear the procedure. However, they were less sure that long-term psychological distress could be a side effect of ECT. Analysis of the data found that more respondents who had experience in an ECT environment (in excess of five years) disagreed that long-term psychological distress can be a side effect of ECT. Interestingly, the raw data found 20% of respondents with more than five years experience in an ECT environment *incorrectly* disagreed with the statement compared to only 5% of respondents with nil experience. Once again a possible explanation for this may lie in the fact that ECT clients have a short stay in hospital and are followed up in the community by other mental health professionals. Therefore, mental health professionals in an inpatient unit may not be aware of long-term side effects. Another possible (and perhaps, more valid) explanation for these findings ties in with the findings for knowledge of cognitive side effects. That is, findings of respondents with more than five years' experience in an ECT setting suggest a knowledge deficit about longer-term cognitive side effects and it is of some concern that experienced clinicians have a lack of awareness about these issues facing clients who have undergone ECT.

Attitudes

The majority (81%) of the respondents disagreed or strongly disagreed that ECT related memory loss is a myth. Sixty-eight percentage rejected ECT if

recommended by their treating doctor and a similar number (69%) reported that criticisms about ECT are justified (see Appendix 18). These findings were very similar to the findings for clinicians with more than five years' experience in an ECT setting (see Appendix 19), less than one year's experience (see Appendix 20) and nil experience in a similar setting (see Appendix 21). The high percentage of agreement (see Appendix 18) regarding the safety of modified ECT may suggest clinicians fail to understand the complexities involved in contemporary ECT. Interestingly, disagreement, albeit in the minority, came from clinicians with less experience and nil experience (see Appendices 20 and 21). Despite the failure to appreciate fully the dangers to cognitive functioning following repeated grand mal seizures and the dangers inherent in increased seizure threshold due to the use of general anaesthetic, only a minority indicated their acceptance of ECT as a treatment option; this being the case for both female and male respondents.

Qualitative Findings – Practice Issues

Although not the focus of the study, cogent themes (Appendix 24) were extracted from the qualitative findings (see Appendix 23). There was a predominance of negative comments about the psychological and cognitive side effects of ECT in addition to comments about a lack of options for clients. Other major themes to emerge relate to respondents' views on ECT, which sometimes were in conflict with those of colleagues from other disciplines. And finally, a lack of knowledge, either self-identified or identified by comments made by respondents emphasise the need for clinicians to be well-informed about all aspects of ECT practice. Major themes and comments related to them are found in Appendix 24. Each of these issues will be explored in the next section.

Side Effects of ECT – Psychological and Cognitive

Reports of clients feeling "disempowered", traumatised, assaulted and damaged after undergoing ECT are noteworthy and disturbing. Equally disturbing is the lack of understanding suggested in the comments made by one of the respondents who acknowledged clients undergo distress but felt this was adequately addressed by the nursing staff (Respondent No. 46). The view of this respondent alludes to having experience of working in an ECT setting and further supports the quantitative findings. Namely, respondents with more experience in an ECT environment have less knowledge about the persistence of ECT side effects. Only one respondent identified the need to explore the meaning of undergoing ECT with the client who

may see "... ECT as punishment vs panacea ... [Respondent No. 59]". This is an important psychological issue and one that is highlighted in a study by Walter et al. (1999) where some teenaged clients reported having ECT in the hope of dying while undergoing the procedure or being brain damaged by it. Feelings of fear and increased anxiety levels are also identified as issues that need to be addressed with clients who have either undergone ECT or are about to undergo ECT. Although one respondent reported "... the treatment had an immediate positive result [and that there was] ... no trauma associated with the experience ... [making clients] ... more accessible to psychological treatment afterwards ..." [Respondent No. 71], identification of therapeutic issues, as noted above, underscores the need for psychologists to be sensitive towards the unique needs of these clients.

Memory loss was also identified as an issue for clients who have undergone ECT. The disparity in the severity of side effects reported by respondents in this study were perhaps influenced by technical aspects of ECT; a finding supported in the body of literature (Gordon, 1982; Smith & Nalpas, 2001). Many respondents have highlighted the need for supportive therapy for clients post-ECT and it is a need that has been previously identified in the literature (Katz, 1992). The comments about the variation in the duration of cognitive side effects once again emphasizes the need for psychologists to be well-informed about the nature and duration of ECT related cognitive side effects and to be aware that several aspects of the procedure affect cognitive (dys)functioning.

Lack of Options for Clients

There are concerns about the promotion of ECT as a first line treatment option without considering alternative options. This is elaborated further in comments from respondents who voice their concern about the lack of options presented to vulnerable clients in a mental health environment where service delivery is driven by a biological approach without taking into account the psycho-social aspects of clients' circumstances. The failure to contextualise the client's circumstances, the comments suggest, has the potential to generate friction in a multidisciplinary team. The importance for team members to be well-informed about ECT was noted nearly two decades ago by Yudofsky (1982) and reiterated more recently by Lutchman et al (2001). This scenario also places demands on professional ethics. One clinician ties these issues together by questioning, "... how to remain part of a health system that I regard as engaging in unethical and scientifically dubious and harmful practices

such as ECT and how to support clients informed decision-making process given the extreme pressure on them to accept ECT" [Respondent No. 53].

Fewer comments referred to the use of ECT as a treatment of last resort when all other treatment options had failed. It is of particular interest that even when clinicians endorse the use of ECT, they see ECT as a treatment of last resort or a treatment that is successful in certain populations (i.e., the elderly). It should be noted that these endorsements are not supported in evidence-based literature that is to say, research has shown that the efficacy of ECT across populations is equivocal. Guarded comments noted in the study suggest it is possible that clinicians are guided by perceptions or beliefs rather than the evidence-base. This view is further supported in the comments respondents have made regarding their views on ECT.

Views on ECT

Albeit somewhat circumspect, positive views on ECT are generally framed within limited clinical indicators for ECT. For example, one respondent reports "... it has value in treating depression in the elderly ..." (Respondent No. 8), while another states, "... with severe depression, not helped by medication, ECT (modified) has a place in treatment ..." [No. 36]. However, research evidence suggests the contrary (Prudic, et al., 1996; Sackeim et al., 2002). Comments about the immediate response clients have to ECT (Respondent No. 40) are to be viewed with caution. Rapidity of symptom reduction is a subjective *observable* measurement and Myers and Winters (2002) emphasis the need to consider a wider approach in assessing positive outcomes in affective disorders.

Concerns about client wellbeing and issues related to advocacy are embedded in the negative views towards ECT. These comments are summed up by one respondent who says, "I would just like to add that I hope such research sheds light on the archaic and invasive, outdated nature of this procedure. I would hope that as psychologists that we are united in promoting more holistic approaches that serve to empower and enrich our clients' lives and do not disable them." (Respondent No. 2).

Lack of Knowledge

The study appears to have raised awareness to a small degree among clinical psychologists about various issues about ECT. Despite having clients who have undergone ECT, one respondent stated, "I am appalled at my ignorance!" [Respondent No. 71]. Another respondent noted, "you've highlighted that I really know very little about ECT, mainly because I don't work with clientele who have

had ECT" [Respondent No. 8]. The suggestion was often made that respondents' work experience did not include mental health clients. However, knowledge of ECT is important for all clinicians regardless of their client population. ECT is promoted as one of the contemporary treatment options for depression (APA, 1990). Although the rates of usage are not known in Western Australia, it is estimated, on a global scale, one million patients undergo ECT annually (Prudic et al., 2001).

Another dimension of the lack of knowledge that emerged from the qualitative findings relates to comments made by respondents about ECT's status as a proven treatment. One respondent states, "it is a fact of life in psychiatric practice, empirically supported and can be effective in some cases ..." [Respondent No. 31], and another respondent writes, "Literature does support modified ECT with severe depression" [Respondent 27]. The findings from major reviews are clear that the efficacy of ECT is, at very best, weak.

Summary of Qualitative Data

The negative views of the respondents appear to be influenced by the psychological effects of ECT on the clients, and the lack of options available to clients before the commencement of ECT. Although clinicians note ECT's effect on memory functioning, respondents articulated their views more strongly about client well-being and the limited options offered to vulnerable clients. These findings suggest negative attitudes towards ECT, as reported by other studies (Ghaziuddin et al., 2001; Janicak et al., 1985; Lutchman, et al., 2001) may not be influenced by lack of knowledge about the procedure, but rather by the clinical experience of working with clients who have undergone ECT. These findings add an important dimension to understanding negative views about ECT and could be explored in future studies of mental health professionals.

Summary

The aims of the study were to examine the knowledge of, and attitudes towards, ECT of clinical psychologists in Western Australia. The study also sought to examine the professional experience of clinicians with clients who have undergone ECT. Despite some respondents having more than five years' experience in an ECT setting and some respondents having no experience at all, an uneven pattern of results emerged. Clinicians with more than five years' experience in an ECT setting had a higher percentage of correct scores for nearly all items, compared to clinicians with less experience or nil experience. On the other hand, although the findings

among experienced clinicians are encouraging, it is also disconcerting that there were larger numbers of *incorrect* responses from more experienced clinicians than clinicians with nil experience. This was evident in nearly all items in the survey (see Appendix 17). Even though figures in the vicinity of 20-30% represent only a few individuals (less than 15 clinicians), it is nonetheless a concern as it reflects knowledge deficits in approximately one-third of experienced clinicians.

Encouragingly, and perhaps not surprisingly, overall, the findings suggest all clinicians (regardless of experience) have knowledge (or are aware) about the psychological side effects of ECT. However, clinicians with more experience of working in an ECT setting lacked knowledge that long-term psychological distress can be a side effect of ECT. Knowledge deficits were also found among these clinicians for items related to longer-term cognitive side effects.

Of interest, similar to other studies (Ghazuiddin et al., 2001; Janicak et al., 1985; Lutchman et al., 2001), clinical psychologists were negative towards ECT.

Implications of the Findings

Knowledge deficits about longer-term cognitive and psychological side effects of ECT among experienced clinicians have implications for the practice of psychologists. Clinicians have highlighted how clients are affected by the experience of undergoing ECT. Feelings of disempowerment, being put through an invasive intervention, lasting side effects and the need for on-going supportive therapy are underscored by respondents' reflection of practice with clients who have undergone ECT (See Appendix 24). These practice issues have been highlighted in the body of ECT literature (Johnstone, 1999; Katz, 1992; Warren 1988).

The issues raised in this study also highlight the potential difficulties for the client if the clinician is ill-informed and/or insensitive to the experience of the client who has undergone ECT. The findings of this survey suggest there is scope for this to occur in practice, and perhaps more so, if the clinician has spent more time in an ECT environment than if the clinician had less or nil exposure to a similar environment. It is of interest that the findings of more experienced clinicians are often very similar to those of the clinical staff working in an ECT environment (see Appendix 7).

Strengths of the Study

The strengths of the study are embedded in the research design. Firstly, items in the questionnaire were constructed using evidence-based literature. This provided

an opportunity to operationalise the construct of 'knowledge', making the attempt at assessing knowledge much easier. Secondly, content and face validity of the newly developed questionnaire was established with the help of experienced mental health professionals and a mental health consumer who had undergone ECT. The inclusion of the latter has not been reported before but is in keeping with the ethos of mental health policy in Australia. Thirdly, conducting a pilot study prior to undertaking the major study provided the opportunity to amend the questionnaire and enhance its utility. However, although analysis indicated the psychometric properties were low, the items were retained as they provided a broad measure of ECT knowledge relevant to clinical psychologists. Presenting these items not only provided an opportunity to assess clinical psychologists' knowledge of ECT but the items may have served to raise awareness about issues related to ECT and the practice of psychology; the latter point is reflected in the comments of Respondents No. 8, 69, 71 in Appendix 23. Finally, the provision of space in the questionnaire for information about issues facing clients who have undergone ECT and their clinicians provided a window of opportunity for future research.

Limitations of the Study

Firstly, the inability to delineate 'Knowledge' items from 'Attitudes' items lowered the psychometric properties of the scale. This may have been due to a high percentage of uncertainty reported in the pilot study and the major study. Secondly, given the sub-types of major psychiatric diagnoses, the use of over-arching diagnostic terms such as "depression" and "schizophrenia" highlighted ambiguity in the statements (for some respondents). Thirdly, the inclusion of a section under demographics indicating current practice (i.e., if respondents were in private practice or working in an inpatient mental health setting) would have been valuable. This piece of information may have provided a better understanding of conflicting views reported by those with more than five years' experience in an ECT setting compared to those with lesser experience or nil experience. Finally, knowledge is a construct making assessment difficult, but not impossible.

Future Directions

The items in the newly developed questionnaire were compiled to assess the knowledge of clinical psychologists about the practice of ECT and to examine their attitudes towards the psychiatric procedure. Firstly, the development of the scale provides an opportunity to enhance it further for future use with psychologists.

Content and face reliability was established and as Streiner and Norman (2000) state, "the reliability of a measure is intimately linked to the population to which one wants to apply the measure ...[and that] ... the coefficient has meaning only when applied to specific populations". Clearly, this was evident in the findings where Cronbach's alpha increased from .60 in the pilot study to .68 in the major study. Eliciting information about experience less than five years' but more than one year did not add any particular value to findings and perhaps, can be excluded in future use of the scale. Addition of items that examine efficacy of ECT with younger clients and clients over the age of 65 years may be useful additions.

Secondly, although ECT is a psychiatric procedure, it is clear from the findings of this study that clinical psychologists are faced with issues confronting clients in the post-ECT phase that influences the practice of psychology. Accurate evidence-based knowledge is not only crucial in supporting these clients but has been highlighted by respondents, as the bedrock in ethical practice. Therefore it is essential professional development forums address education about ECT and the issues that face clients who have undergone ECT, from *a psychologist's perspective*.

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APPENDIX 1

ELECTROCONVULSIVE THERAPY
KNOWLEDGE AND ATTITUDE QUESTIONNAIRE FOR PSYCHOLOGISTS

Age: ____
Gender: ____

PLEASE PROVIDE DETAILS OF HIGHEST DEGREE OBTAINED

Year Graduated: _____ ____/Not applicable
Australian Graduate: _____ (Yes/No) ____(State)
Or
Overseas Graduate: _____ (Yes/No) ____(Country)

PLEASE PROVIDE DETAILS OF YOUR EXPERIENCE

My experience has included clients with mental health problems: Yes/No/Not applicable
My experience has included clients who have had ECT: Yes/No/Not applicable

My experience in a mental health setting where ECT is practiced is:

More than 5 years ☐
Less than 5 years ☐
Less than 1 year ☐
Nil ☐

PLEASE PROVIDE DETAILS OF YOUR KNOWLEDGE OF ECT

I would rate my knowledge of ECT as (please tick ONE box):

- High ☐
- Moderate ☐
- Minimum ☐
- Non-existent ☐

My knowledge of ECT was acquired from (please tick more than one box if applicable):

- Movies ☐
- Scientific literature ☐
- Colleagues ☐
- Clients ☐
- Family ☐
- Friends ☐

Other (please state) _____

(Please turn over ...)

D. Barrett, Dpsych Candidate, School of Psychology, ECU

ELECTROCONVULSIVE THERAPY KNOWLEDGE AND ATTITUDE QUESTIONNAIRE FOR PSYCHOLOGISTS

Definitions:
Electroconvulsive Therapy = ECT
'Modified' ECT = ECT performed *with* general anaesthetic and muscle relaxants.
'Unmodified' ECT = ECT performed *without* general anaesthetic and muscle relaxants.
Course of ECT = approximately 6-10 individual treatments.
ECT = Modified/unmodified ECT
Bilateral ECT = electrodes placed on *both* sides of the skull.
Unilateral ECT = electrodes placed on *one* side of the skull.

There are 25 statements in this questionnaire. Please endorse **ALL** statements by selecting **ONE** of the five categories to the right of the statement. Space is provided at the end of the questionnaire for comments. Key definitions are provided above for words *italicised* in the questionnaire below.

KNOWLEDGE

	Strongly agree	**Agree**	**Neither agree nor disagree**	**Disagree**	**Strongly disagree**
ECT is a psychiatric procedure.					
ECT involves a medically induced seizure.					
During *ECT*, the patient experiences a grand mal seizure.					
Unmodified ECT is no longer practiced anywhere in the world.					
Generally considered for adult patients, *ECT* is also a psychiatric treatment for patients under the age of 18.					
A patient can undergo unlimited *courses* of *ECT* over a lifetime.					
ECT is also considered a prophylactic treatment for recurrent major depression.					
ECT is an effective treatment for schizophrenia.					
ECT prevents suicide.					
Judging by relapse rates, *ECT* is an effective treatment for depression.					
ECT causes some permanent memory loss.					
Memory loss following *ECT* is distinctive.					
Persistent memory related side effects, post-*ECT*, is more likely due to depression.					
Memory-related side effects after *modified ECT* disappear after a few days.					
Only *unmodified ECT* causes memory-related side effects that can persist for years.					
There are no memory-related side effects after *unilateral ECT*.					

(Please turn over ...)

Memory-related side effects can sometimes last for years after *ECT*.					
ECT-related memory loss can be a source of psychological distress.					
Long-term psychological distress can be a side effect of *ECT*.					
Only patients who are forced to undergo *ECT*, fear the procedure.					
ATTITUDES					
ECT-related memory loss is a myth.					
If recommended by my treating doctor, I would undergo *ECT*.					
Criticisms about *ECT* are unjustified.					
ECT should not be a treatment of last resort.					
Modified ECT is safer than *unmodified ECT*.					

ADDITIONAL COMMENTS (OPTIONAL)

Please provide further comments about your professional experience working with clients who have undergone ECT. In particular, please comments on therapeutic issues related to supporting these clients.

Thank you for your co-operation

*****

APPENDIX 2

LETTER OF INTRODUCTION TO MEMBERS OF THE EXPERT PANEL

Dear Participant

Electroconvulsive Therapy: An Assessment of Experience, Knowledge and Attitudes of Clinical Psychologists in Western Australia

I am undertaking studies in the Doctor of Psychology (Clinical Psychology) program at Edith Cowan University. My supervisor is Professor Alison Garton.

As part of my study I have elected to do a survey of clinical psychologists in Western Australia. Overseas studies indicate that psychologists score poorly on knowledge about ECT. As far as I can ascertain, a similar study has not been carried out in Western Australia. Deficits in knowledge, in particular about the side effects of ECT, have implications for the practice of psychology.

The survey involves a 25-item questionnaire which has been constructed using evidence-based literature. In an attempt to ensure content and face validity of the final questionnaire I would like to elicit comments from mental health professionals from the discipline of psychiatry, nursing, occupational therapy and social work. In addition, comments from mental health consumers who have had ECT will be invited. Following these consultations the questionnaire will be pre-tested with mental health professionals (excluding clinical psychologists) and students. The final stage of the project involves distribution of the questionnaire to clinical psychologists in Western Australia.

As part of the first stage I would like to explore the content of the questionnaire with you during a semi-structured interview. The interviews will take approximately one hour long and will be taped on a cassette recorder to allow for transcribing of content. Your name will not be identified on any of the transcripts. All tapes and transcripts will be secure in a locked cabinet in the School of Psychology and deleted after the preservation period.

You may terminate the interview at any time and withdraw from the study. You have the right not to answer any question you feel is inappropriate.

The project has been approved by the University Ethics Committee, Edith Cowan University.

If you have any queries about this project, please contact me via the details provided below.

Thanking you,

Dawn A Barrett
DPsych. Candidate
School of Psychology
9400 5223 or 5551

Professor Alison Garton
Professor of Psychology
School of Psychology

APPENDIX 3

CONSENT FORM FOR MEMBERS OF THE EXPERT PANEL

Electroconvulsive Therapy: An Assessment of Experience, Knowledge and Attitudes of Clinical Psychologists in Western Australia

I, _____, have read and understood the information sheet given to me.

I understand and give consent to the interview being taped and transcribed by Dawn Barrett and I agree to participate in the study.

I understand the information provided by me and related to me, will be held in a secure environment and will be destroyed appropriately.

I agree that the research data gathered for this study may be published provided I am not identifiable or identified.

I understand my right to withdraw from this project, without prejudice, at any time during the course of the interview.

Date: _____ Participant: _____

APPENDIX 4

LETTER OF INTRODUCTION TO MANAGER, MENTAL HEALTH UNIT IN INPATIENT SETTINGS

Dear

Electroconvulsive Therapy: An Assessment of Experience, Knowledge and Attitudes of Clinical Psychologists in Western Australia

I am undertaking studies in the Doctor of Psychology (Clinical Psychology) program at Edith Cowan University. My supervisor is Professor Alison Garton.

As part of my study I have elected to do a survey of clinical psychologists in Western Australia. The survey involves a questionnaire which is segmented into demographic details; knowledge of electroconvulsive therapy (ECT); and attitudes towards ECT. The 25-item questionnaire is constructed using evidence-based literature. Overseas studies indicate that psychologists score poorly on knowledge about ECT. As far as I can ascertain, a similar study has not been carried out in Western Australia. Deficits in knowledge, in particular about side effects of ECT, have implications for the practice of psychology.

I request permission to distribute the questionnaire to nurses, social workers and occupational therapists to collect data for the pre-testing of the questionnaire prior to the major study. Return of completed questionnaires will be via a collection box that can be placed at a location you nominate as convenient.

The project has been approved by the University Ethics Committee, Edith Cowan University.

If you have any queries at all about this project, please feel free to contact me (via the School Secretary) on 9400 5551 or my supervisor's secretary, Ms Carole Gamsby on 9400 5526.

Yours sincerely

DAWN A BARRETT
DPsych. Candidate
School of Psychology

PROFESSOR ALISON GARTON
Professor of Psychology
School of Psychology

APPENDIX 5

FREQUENCES FOR ITEMS 1 TO 25 FROM RESPONDENTS IN THE PILOT STUDY

Item 1: ECT is a psychiatric procedure.

	Frequency	%	Valid %	Cumulative %
Strongly agree	40	21.6	21.7	21.7
Agree	123	66.5	66.8	88.6
Neither agree nor disagree	15	8.1	8.2	96.7
Disagree	3	1.6	1.6	98.4
Strongly disagree	3	1.6	1.6	100.0
Total	184	99.5	100.0	
Missing	1	0.5		
Total	185	100.0		

Item 2: ECT involves a medically induced seizure.

	Frequency	%	Valid %	Cumulative %
Strongly agree	59	31.9	32.2	32.2
Agree	109	58.9	59.6	91.8
Neither agree nor disagree	13	7.0	7.1	98.9
Disagree	2	1.1	1.1	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 3: During ECT, the patient experiences a grand mal seizure.

	Frequency	%	Valid %	Cumulative %
Strongly agree	25	13.5	13.8	13.8
Agree	72	38.9	39.8	53.6
Neither agree nor disagree	48	25.9	26.5	80.1
Disagree	26	14.1	14.4	94.5
Strongly disagree	10	5.4	5.5	100.0
Total	181	97.8	100.0	
Missing	4	2.2		
Total	185	100.0		

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	12	6.5	6.6	6.6
Disagree	26	14.1	14.4	21.0
Neither agree nor disagree	89	48.1	49.2	70.2
Agree	38	20.5	21.0	91.2
Strongly agree	16	8.6	8.8	100.0
Total	181	97.8	100.0	
Missing	4	2.2		
Total	185	100.0		

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	Frequency	%	Valid %	Cumulative %
Strongly agree	5	2.7	2.7	2.7
Agree	30	16.2	16.4	19.1
Neither agree nor disagree	70	37.8	38.3	57.4
Disagree	42	22.7	23.0	80.3
Strongly disagree	36	19.5	19.7	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	Frequency	%	Valid %	Cumulative %
Strongly agree	7	3.8	3.8	3.8
Agree	41	22.2	22.3	26.1
Neither agree nor disagree	39	21.1	21.2	47.3
Disagree	52	28.1	28.3	75.5
Strongly disagree	45	24.3	24.5	100.0
Total	184	99.5	100.0	
Missing	1	0.5		
Total	185	100.0		

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	Frequency	%	Valid %	Cumulative %
Strongly agree	34	18.4	18.6	18.6
Agree	96	51.9	52.5	71.0
Neither agree nor disagree	18	9.7	9.8	80.9
Disagree	25	13.5	13.7	94.5
Strongly disagree	10	5.4	5.5	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 8: ECT is an effective treatment for schizophrenia.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	29	15.7	15.7	15.7
Disagree	41	22.2	22.2	37.8
Neither agree nor disagree	62	33.5	33.5	71.4
Agree	45	24.3	24.3	95.7
Strongly agree	8	4.3	4.3	100.0
Total	185	100.0	100.0	

Item 9: ECT prevents suicide.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	51	27.6	27.9	27.9
Disagree	38	20.5	20.8	48.6
Neither agree nor disagree	67	36.2	36.6	85.2
Agree	22	11.9	12.0	97.3
Strongly agree	5	2.7	2.7	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	9	4.9	4.9	4.9
Disagree	12	6.5	6.5	11.4
Neither agree nor disagree	55	29.7	29.9	41.3
Agree	93	50.3	50.5	91.8
Strongly agree	15	8.1	8.2	100.0
Total	184	99.5	100.0	
Missing	1	0.5		
Total	185	100.0		

Item 11: ECT causes some permanent memory loss.

	Frequency	%	Valid %	Cumulative %
Strongly agree	16	8.6	8.7	8.7
Agree	69	37.3	37.7	46.4
Neither agree nor disagree	45	24.3	24.6	71.0
Disagree	41	22.2	22.4	93.4
Strongly disagree	12	6.5	6.6	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 12: Memory loss following ECT is distinctive.

	Frequency	%	Valid %	Cumulative %
Strongly agree	15	8.1	8.4	8.4
Agree	78	42.2	43.6	52.0
Neither agree nor disagree	63	34.1	35.2	87.2
Disagree	19	10.3	10.6	97.8
Strongly disagree	4	2.2	2.2	100.0
Total	179	96.8	100.0	
Missing	6	3.2		
Total	185	100.0		

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	25	13.5	13.6	13.6
Disagree	55	29.7	29.9	43.5
Neither agree nor disagree	81	43.8	44.0	87.5
Agree	21	11.4	11.4	98.9
Strongly agree	2	1.1	1.1	100.0
Total	184	99.5	100.0	
Missing	1	0.5		
Total	185	100.0		

Item 14: Memory related side effects after modified ECT disappear after a few days.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	10	5.4	5.4	5.4
Disagree	16	8.6	8.7	14.1
Neither agree nor disagree	60	32.4	32.6	46.7
Agree	88	47.6	47.8	94.6
Strongly agree	10	5.4	5.4	100.0
Total	184	99.5	100.0	
Missing	1	0.5		
Total	185	100.0		

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	29	15.7	16.0	16.0
Disagree	26	14.1	14.4	30.4
Neither agree nor disagree	98	53.0	54.1	84.5
Agree	25	13.5	13.8	98.3
Strongly agree	3	1.6	1.7	100.0
Total	181	97.8	100.0	
Missing	4	2.2		
Total	185	100.0		

Item 16: There are no memory related side effects following unilateral ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	33	17.8	18.0	18.0
Disagree	55	29.7	30.1	48.1
Neither agree nor disagree	90	48.6	49.2	97.3
Agree	5	2.7	2.7	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 17: Memory related side effects can sometimes last for years after ECT.

	Frequency	%	Valid %	Cumulative %
Strongly agree	8	4.3	4.4	4.4
Agree	59	31.9	32.2	36.6
Neither agree nor disagree	79	42.7	43.2	79.8
Disagree	30	16.2	16.4	96.2
Strongly disagree	7	3.8	3.8	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 18: ECT-related memory loss can be a source of psychological distress.

	Frequency	%	Valid %	Cumulative %
Strongly agree	32	17.3	17.5	17.5
Agree	93	50.3	50.8	68.3
Neither agree nor disagree	45	24.3	24.6	92.9
Disagree	9	4.9	4.9	97.8
Strongly disagree	4	2.2	2.2	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 19: Long-term psychological distress can be a side effect of ECT.

	Frequency	%	Valid %	Cumulative %
Strongly agree	13	7.0	7.2	7.2
Agree	42	22.7	23.2	30.4
Neither agree nor disagree	88	47.6	48.6	79.0
Disagree	30	16.2	16.6	95.6
Strongly disagree	8	4.3	4.4	100.0
Total	181	97.8	100.0	
Missing	4	2.2		
Total	185	100.0		

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	66	35.7	35.9	35.9
Disagree	68	36.8	37.0	72.8
Neither agree nor disagree	30	16.2	16.3	89.1
Agree	13	7.0	7.1	96.2
Strongly agree	7	3.8	3.8	100.0
Total	184	99.5	100.0	
Missing	1	0.5		
Total	185	100.0		

Item 21: ECT-related memory loss is a myth.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	71	38.4	38.8	38.8
Disagree	65	35.1	35.5	74.3
Neither agree nor disagree	42	22.7	23.0	97.3
Agree	5	2.7	2.7	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 21: If recommended by my treating doctor, I would undergo ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	62	33.5	33.9	33.9
Disagree	29	15.7	15.8	49.7
Neither agree nor disagree	48	25.9	26.2	76.0
Agree	38	20.5	20.8	96.7
Strongly agree	6	3.2	3.3	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 23: Criticisms about ECT are unjustified.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	27	14.6	14.8	14.8
Disagree	40	21.6	22.0	36.8
Neither agree nor disagree	74	40.0	40.7	77.5
Agree	35	18.9	19.2	96.7
Strongly agree	6	3.2	3.3	100.0
Total	182	98.4	100.0	
Missing	3	1.6		
Total	185	100.0		

Item 24: ECT should not be a treatment of last resort.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	23	12.4	12.6	12.6
Disagree	42	22.7	23.0	35.5
Neither agree nor disagree	54	29.2	29.2	65.0
Agree	48	25.9	26.2	91.3
Strongly agree	16	8.6	8.7	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

Item 25: Modified ECT is safer than unmodified ECT.

	Frequency	%	Valid %	Cumulative %
Strongly Disagree	4	2.2	2.2	2.2
Disagree	5	2.7	2.7	4.9
Neither agree nor disagree	62	33.5	33.9	38.8
Agree	52	28.1	28.4	67.2
Strongly Agree	60	32.4	32.8	100.0
Total	183	98.9	100.0	
Missing	2	1.1		
Total	185	100.0		

APPENDIX 6

COMPARISON OF FREQUENCIES FOR ITEMS 1 TO 25 BY EXPERIENCE - PILOT STUDY

Item 1: ECT is a psychiatric procedure.

	All respondents (n = 184)	> 5 years' experience (n = 24)	< 1 year's experience (n = 88)	Nil experience (n = 50)
Strongly agree	21.7	58.3	15.9	14.0
Agree	66.8	37.5	69.3	76.0
Neither agree nor disagree	8.2	-	12.5	6.0
Disagree	1.6	4.2	1.1	2.0
Strongly disagree	1.6	-	1.1	2.0

Item 2: ECT involves a medically induced seizure.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly agree	32.2	62.5	24.1	30.0
Agree	59.6	37.5	66.7	62.0
Neither agree nor disagree	7.1	-	8.0	8.0
Disagree	1.1	-	1.1	-
Strongly disagree	-	-	-	-

Item 3: During ECT, the patient experiences a grand mal seizure.

	All respondents (n = 181)	> 5 years' experience (n = 24)	< 1 year's experience (n = 86)	Nil experience (n = 49)
Strongly agree	13.8	41.7	10.5	10.2
Agree	39.8	41.7	36.0	34.7
Neither agree nor disagree	26.5	8.3	26.7	38.8
Disagree	14.4	8.3	17.4	14.3
Strongly disagree	5.5	-	9.3	2.0

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	All respondents (n = 181)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 48)
Strongly disagree	6.6	-	6.9	10.4
Disagree	14.4	12.5	17.2	14.6
Neither agree nor disagree	49.2	45.8	47.1	58.3
Agree	21.0	33.3	17.2	10.4
Strongly agree	8.8	8.3	11.5	6.3

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 88)	Nil experience (n = 50)
Strongly agree	2.7	8.7	1.1	
Agree	16.4	17.4	15.9	18.0
Neither agree nor disagree	38.3	34.8	36.4	40.0
Disagree	23.0	17.4	25.0	28.0
Strongly disagree	19.7	21.7	21.6	14.0

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	All respondents (n = 184)	> 5 years' experience (n = 24)	< 1 year's experience (n = 88)	Nil experience (n = 50)
Strongly agree	3.8	12.5	1.1	2.0
Agree	22.3	37.5	20.5	16.0
Neither agree nor disagree	21.2	16.7	22.7	22.0
Disagree	28.3	20.8	29.5	30.0
Strongly disagree	24.5	12.5	26.1	30.0

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 89)	Nil experience (n = 49)
Strongly agree	18.6	29.2	16.9	16.3
Agree	52.5	54.2	49.4	53.1
Neither agree nor disagree	9.8	8.3	12.4	6.1
Disagree	13.7	8.3	12.4	18.4
Strongly disagree	5.5	-	9.0	4.1

Item 8: ECT is an effective treatment for schizophrenia.

	All respondents (n = 185)	> 5 years' experience (n = 24)	< 1 year's experience (n = 89)	Nil experience (n = 50)
Strongly disagree	15.7	20.8	15.7	16.0
Disagree	22.2	20.8	20.2	24.0
Neither agree nor disagree	33.5	29.2	33.7	36.0
Agree	24.3	20.8	27.0	20.0
Strongly agree	4.3	8.3	3.4	4.0

Item 9: ECT prevents suicide.

	All respondents (n = 183)	> 5 years' experience (n = 23)	< 1 year's experience (n = 89)	Nil experience (n = 50)
Strongly disagree	27.9	21.7	23.6	36.0
Disagree	20.8	13.0	22.5	20.0
Neither agree nor disagree	36.6	47.8	34.8	34.0
Agree	12.0	13.0	16.9	6.0
Strongly agree	2.7	4.3	2.2	4.0

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	All respondents (n = 184)	> 5 years' experience (n = 24)	< 1 year's experience (n = 89)	Nil experience (n = 49)
Strongly disagree	4.9	4.2	1.1	10.2
Disagree	6.5	-	6.7	8.2
Neither agree nor disagree	29.9	20.8	27.0	36.7
Agree	50.5	62.5	58.4	36.7
Strongly agree	8.2	12.5	6.7	8.2

Item 11: ECT causes some permanent memory loss.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 88)	Nil experience (n = 49)
Strongly agree	8.7	12.5	3.4	14.3
Agree	37.7	20.8	47.7	34.7
Neither agree nor disagree	24.6	8.3	19.3	36.7
Disagree	22.4	45.8	21.6	10.2
Strongly disagree	6.6	12.5	8.0	4.1

Item 12: Memory loss following ECT is distinctive.

	All respondents (n = 179)	> 5 years' experience (n = 23)	< 1 year's experience (n = 85)	Nil experience (n = 49)
Strongly agree	8.4	21.7	5.9	8.2
Agree	43.6	39.1	50.6	32.7
Neither agree nor disagree	35.2	13.0	32.9	53.1
Disagree	10.6	21.7	9.4	4.1
Strongly disagree	2.2	4.3	1.2	2.0

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	All respondents (n = 184)	> 5 years' experience (n = 24)	< 1 year's experience (n = 88)	Nil experience (n = 50)
Strongly disagree	13.6	12.5	11.4	18.0
Disagree	29.9	45.8	27.3	32.0
Neither agree nor disagree	44.0	25.0	50.0	44.0
Agree	11.4	12.5	11.4	4.0
Strongly agree	1.1	4.2	-	2.0

Item 14: Memory related side effects after modified ECT disappear after a few days.

	All respondents (n = 184)	> 5 years' experience (n = 24)	< 1 year's experience (n = 89)	Nil experience (n = 49)
Strongly disagree	5.4	8.3	2.2	8.2
Disagree	8.7	4.2	9.0	8.2
Neither agree nor disagree	32.6	25.0	25.8	53.1
Agree	47.8	50.0	60.7	28.6
Strongly agree	5.4	12.5	2.2	2.0

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	All respondents (n = 181)	> 5 years' experience (n = 24)	< 1 year's experience (n = 86)	Nil experience (n = 49)
Strongly disagree	16.0	33.3	12.8	18.4
Disagree	14.4	12.5	12.8	14.3
Neither agree nor disagree	54.1	45.8	54.7	55.1
Agree	13.8	8.3	19.8	8.2
Strongly agree	1.7	-	-	4.1

Item 16: There are no memory related side effects following unilateral ECT.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly disagree	18.0	29.2	18.4	14.0
Disagree	30.1	37.5	29.9	28.0
Neither agree nor disagree	49.2	29.2	48.3	58.0
Agree	2.7	4.2	3.4	-
Strongly agree	-	-	-	-

Item 17: Memory related side effects can sometimes last for years after ECT.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly agree	4.4	-	2.3	8.0
Agree	32.2	4.2	39.1	32.0
Neither agree nor disagree	43.2	45.8	41.4	48.0
Disagree	16.4	41.7	13.8	8.0
Strongly disagree	3.8	8.3	3.4	4.0

Item 18: ECT-related memory loss can be a source of psychological distress.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly agree	17.5	33.3	9.2	26.0
Agree	50.8	41.7	56.3	40.0
Neither agree nor disagree	24.6	12.5	27.6	28.0
Disagree	4.9	12.5	3.4	4.0
Strongly disagree	2.2	-	3.4	2.0

Item 19: Long-term psychological distress can be a side effect of ECT.

	All respondents (n = 181)	> 5 years' experience (n = 24)	< 1 year's experience (n = 86)	Nil experience (n = 50)
Strongly agree	7.2	4.3	3.5	14.0
Agree	23.2	21.7	19.8	28.0
Neither agree nor disagree	48.6	34.8	55.8	42.0
Disagree	16.6	30.4	17.4	10.0
Strongly disagree	4.4	8.7	3.5	6.0

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	All respondents (n = 184)	> 5 years' experience (n = 24)	< 1 year's experience (n = 88)	Nil experience (n = 50)
Strongly disagree	35.9	37.5	27.3	46.0
Disagree	37.0	41.5	40.9	32.0
Neither agree nor disagree	16.3	16.7	18.2	14.0
Agree	7.1	-	9.1	8.0
Strongly agree	3.8	4.2	4.5	-

Item 21: ECT-related memory loss is a myth.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly disagree	38.8	41.7	39.1	36.0
Disagree	35.5	29.2	37.9	32.0
Neither agree nor disagree	23.0	16.7	21.8	30.0
Agree	2.7	12.5	1.1	2.0
Strongly agree	-	-	-	-

Item 22: If recommended by my treating doctor, I would undergo ECT.

	All respondents (n = 184)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly disagree	33.9	16.7	33.3	42.0
Disagree	15.8	12.5	17.2	20.0
Neither agree nor disagree	26.2	16.7	28.7	20.0
Agree	20.8	41.7	19.5	16.0
Strongly agree	3.3	12.5	1.1	2.0

Item 23: Criticisms about ECT are unjustified.

	All respondents (n = 182)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 49)
Strongly disagree	14.8	8.3	11.5	24.5
Disagree	22.0	8.3	26.4	26.5
Neither agree nor disagree	40.7	41.7	43.7	32.7
Agree	19.2	29.2	16.1	14.3
Strongly agree	3.3	12.5	2.3	2.0

Item 24: ECT should not be a treatment of last resort.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly disagree	12.6	4.2	13.8	18.0
Disagree	23.0	12.5	23.0	28.0
Neither agree nor disagree	29.2	25.0	32.2	26.0
Agree	26.2	45.8	24.1	18.0
Strongly agree	8.7	12.5	6.9	10.0

Item 25: Modified ECT is safer than unmodified ECT.

	All respondents (n = 183)	> 5 years' experience (n = 24)	< 1 year's experience (n = 87)	Nil experience (n = 50)
Strongly disagree	2.2	-	1.1	4.0
Disagree	2.7	8.3	2.3	2.0
Neither agree nor disagree	33.9	16.7	32.2	42.0
Agree	28.4	20.8	33.3	24.0
Strongly agree	32.8	54.2	31.0	28.0

APPENDIX 7

COMPARISON OF FREQUENCIES FOR ITEMS 1 TO 25 BY GROUPS - PILOT STUDY

Item 1: ECT is a psychiatric procedure.

	All respondents (n = 184)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	21.7	16.3	21.7	50.0
Agree	66.8	72.6	56.5	46.2
Neither agree nor disagree	8.2	8.1	17.4	3.8
Disagree	1.6	2.2	-	-
Strongly disagree	1.6	0.7	4.3	-

Item 2: ECT involves a medically induced seizure.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	32.2	28.4	21.7	61.5
Agree	59.6	62.7	65.2	38.5
Neither agree nor disagree	7.1	7.5	13.0	-
Disagree	1.1	1.5	-	-
Strongly disagree	-	-	-	-

Item 3: During ECT, the patient experiences a grand mal seizure.

	All respondents (n = 181)	Nursing students (n = 132)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	13.8	11.4	8.7	30.8
Agree	39.8	40.2	26.1	50.0
Neither agree nor disagree	26.5	27.3	39.1	11.5
Disagree	14.4	14.4	21.7	7.7
Strongly disagree	5.5	6.8	4.3	-

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	All respondents (n = 181)	Nursing students (n = 133)	Psychology students (n = 23)	ECT staff (n = 25)
Strongly disagree	6.6	6.8	13.0	-
Disagree	14.4	15.0	17.4	8.0
Neither agree nor disagree	49.2	51.1	47.8	40.0
Agree	21.0	17.3	17.4	44.0
Strongly agree	8.8	9.8	4.3	8.0

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	All respondents (n = 183)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	2.7	0.7	4.3	12.0
Agree	16.4	17.0	8.7	20.0
Neither agree nor disagree	38.3	40.0	30.4	36.0
Disagree	23.0	25.9	26.1	4.0
Strongly disagree	19.7	16.3	30.4	28.0

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	All respondents (n = 184)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	3.8	1.5	4.3	15.4
Agree	22.3	20.0	17.4	38.5
Neither agree nor disagree	21.2	23.0	8.7	23.1
Disagree	28.3	30.4	26.1	19.2
Strongly disagree	24.5	25.2	43.5	3.8

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	All respondents (n = 183)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 25)
Strongly agree	18.6	18.5	13.0	24.0
Agree	52.5	51.9	52.2	56.0
Neither agree nor disagree	9.8	9.6	8.7	12.0
Disagree	13.7	12.6	26.1	8.0
Strongly disagree	5.5	7.4	-	-

Item 8: ECT is an effective treatment for schizophrenia.

	All respondents (n = 185)	Nursing students (n = 136)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	15.7	16.2	21.7	7.7
Disagree	22.2	22.1	13.0	30.8
Neither agree nor disagree	33.5	33.8	34.8	30.8
Agree	24.3	22.8	30.4	26.9
Strongly agree	4.3	5.1	-	3.8

Item 9: ECT prevents suicide.

	All respondents (n = 183)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 25)
Strongly disagree	27.9	26.7	21.7	20.0
Disagree	20.8	22.2	13.0	12.0
Neither agree nor disagree	36.6	34.8	34.8	52.0
Agree	12.0	14.1	30.4	12.0
Strongly agree	2.7	2.2	-	4.0

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	All respondents (n = 184)	Nursing students (n = 136)	Psychology students (n = 22)	ECT staff (n = 26)
Strongly disagree	4.9	3.7	18.2	-
Disagree	6.5	4.4	27.3	-
Neither agree nor disagree	29.9	27.9	45.5	26.9
Agree	50.5	55.9	9.1	57.7
Strongly agree	8.2	8.1	-	15.4

Item 11: ECT causes some permanent memory loss.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	8.7	9.0	8.7	7.7
Agree	37.7	41.0	52.2	15.4
Neither agree nor disagree	24.6	20.9	8.7	23.1
Disagree	22.4	21.6	26.1	46.2
Strongly disagree	6.6	7.5	-	7.7

Item 12: Memory loss following ECT is distinctive.

	All respondents (n = 179)	Nursing students (n = 132)	Psychology students (n = 23)	ECT staff (n = 24)
Strongly agree	8.4	6.1	8.7	20.8
Agree	43.6	47.0	39.1	29.2
Neither agree nor disagree	35.2	34.8	47.8	25.0
Disagree	10.6	9.1	4.3	25.0
Strongly disagree	2.2	3.0	-	-

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	All respondents (n = 184)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	13.6	14.1	13.0	11.5
Disagree	29.9	25.2	52.2	34.6
Neither agree nor disagree	44.0	48.9	30.4	30.8
Agree	11.4	11.1	4.3	19.2
Strongly agree	1.1	0.7	-	3.8

Item 14: Memory related side effects after modified ECT disappear after a few days.

	All respondents (n = 184)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	5.4	3.7	8.7	11.5
Disagree	8.7	7.4	21.7	3.8
Neither agree nor disagree	32.6	31.9	47.8	23.1
Agree	47.8	51.1	21.7	53.8
Strongly agree	5.4	5.9	-	7.7

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	All respondents (n = 181)	Nursing students (n = 133)	Psychology students (n = 22)	ECT staff (n = 26)
Strongly disagree	16.0	12.8	16.3	34.6
Disagree	14.4	13.5	18.2	15.4
Neither agree nor disagree	54.1	54.1	63.6	46.2
Agree	13.8	18.0	4.5	-
Strongly agree	1.7	1.5	-	3.8

Item 16: There are no memory related side effects following unilateral ECT.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	18.0	15.7	17.4	30.8
Disagree	30.1	30.6	21.7	34.6
Neither agree nor disagree	49.2	50.7	60.9	30.8
Agree	2.7	3.0	-	3.8
Strongly agree	-		-	-

Item 17: Memory related side effects can sometimes persist for years after ECT.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	4.4	3.7	13.0	15.4
Agree	32.2	34.3	39.1	42.3
Neither agree nor disagree	43.2	42.5	47.8	38.5
Disagree	16.4	14.9	4.3	3.8
Strongly disagree	3.8	4.5	-	-

Item 18: ECT-related memory loss can be a source of psychological distress.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly agree	17.5	10.4	39.1	34.6
Agree	50.8	51.5	47.8	50.0
Neither agree nor disagree	24.6	29.9	13.0	7.7
Disagree	4.9	5.2	-	7.7
Strongly disagree	2.2	3.0	-	-

Item 19: Long-term psychological distress can be a side effect of ECT.

	All respondents (n = 181)	Nursing students (n = 133)	Psychology students (n = 23)	ECT staff (n = 25)
Strongly agree	7.2	3.0	39.1	4.0
Agree	23.2	21.1	47.8	28.0
Neither agree nor disagree	48.6	54.1	13.0	40.0
Disagree	16.6	18.0	-	20.0
Strongly disagree	4.4	3.8	-	8.0

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	All respondents (n = 184)	Nursing students (n = 135)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	35.9	33.3	47.8	38.5
Disagree	37.0	35.6	39.1	42.3
Neither agree nor disagree	16.3	19.3	-	15.4
Agree	7.1	8.1	8.7	-
Strongly agree	3.8	3.7	4.3	3.8

Item 21: ECT-related memory loss is a myth.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	38.8	38.8	43.5	34.6
Disagree	35.5	35.1	34.8	38.5
Neither agree nor disagree	23.0	23.9	21.7	19.2
Agree	2.7	2.2	-	7.7
Strongly agree	-	-	-	-

Item 22: If recommended by my treating doctor, I would undergo ECT.

	All respondents (n = 184)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	33.9	33.6	60.9	11.5
Disagree	15.8	14.2	34.8	7.7
Neither agree nor disagree	26.2	30.6	4.3	23.1
Agree	20.8	19.4	-	46.2
Strongly agree	3.3	2.2	-	11.5

Item 23: Criticisms about ECT are unjustified.

	All respondents (n = 182)	Nursing students (n = 133)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	14.8	14.3	30.4	3.8
Disagree	22.0	22.6	34.8	7.7
Neither agree nor disagree	40.7	41.4	26.1	50.0
Agree	19.2	18.8	8.7	30.8
Strongly agree	3.3	3.0	-	7.7

Item 24: ECT should not be a treatment of last resort.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	12.6	12.7	21.7	3.8
Disagree	23.0	20.1	43.5	19.2
Neither agree nor disagree	29.2	32.1	13.0	30.8
Agree	26.2	26.9	8.7	38.5
Strongly agree	8.7	8.2	13.0	7.7

Item 25: Modified ECT is safer than unmodified ECT.

	All respondents (n = 183)	Nursing students (n = 134)	Psychology students (n = 23)	ECT staff (n = 26)
Strongly disagree	2.2	1.5	8.7	-
Disagree	2.7	1.5	4.3	7.7
Neither agree nor disagree	33.9	33.6	60.9	11.5
Agree	28.4	30.6	17.4	26.9
Strongly agree	32.8	32.8	8.7	53.8

APPENDIX 8

ELECTROCONVULSIVE THERAPY
KNOWLEDGE AND ATTITUDE QUESTIONNAIRE FOR PSYCHOLOGISTS

Age: ____
Gender: ____

PLEASE PROVIDE DETAILS OF **POSTGRADUATE** DEGREE (e.g. Masters or doctorate):

_____

Year Graduated: _____
Australian Graduate: _____ (State)
Overseas Graduate: _____ (Country)

PLEASE PROVIDE DETAILS OF YOUR EXPERIENCE

My practice has included clients with mental health problems: Yes/No/Not applicable
My practice has included clients who have had ECT: Yes/No/Not applicable

My professional experience (work/training) in a mental health setting where ECT is practiced is (please tick ONE box):

More than 5 years ☐
Less than 5 years ☐
Less than 1 year ☐
Nil ☐

PLEASE PROVIDE DETAILS OF YOUR KNOWLEDGE OF ECT

I would rate my knowledge of ECT as (please tick ONE box):

- High ☐
- Moderate ☐
- Minimum ☐
- Non-existent ☐

My knowledge of ECT was acquired from (please tick more than one box if applicable):

- Movies ☐
- Scientific literature ☐
- Colleagues ☐
- Clients ☐
- Family ☐
- Friends ☐

Other (please state) _____

(Please turn over ...)

ELECTROCONVULSIVE THERAPY KNOWLEDGE AND ATTITUDE QUESTIONNAIRE FOR PSYCHOLOGISTS

Definitions:
Electroconvulsive Therapy = ECT
'Modified' ECT = ECT performed *with* general anaesthetic and muscle relaxants.
'Unmodified' ECT = ECT performed *without* general anaesthetic and muscle relaxants.
Course of ECT = approximately 6-10 individual treatments.
ECT = Modified/unmodified ECT
Bilateral ECT = electrodes placed on *both* sides of the skull.
Unilateral ECT = electrodes placed on *one* side of the skull.

Below are **24** statements. Please endorse **ALL** statements by selecting **ONE** of the five categories to the right of the statement. Space is provided at the end for comments. Key definitions are provided above for words *italicised* in the statements below.

KNOWLEDGE

	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
ECT is a psychiatric procedure.	( )	( )	( )	( )	( )
ECT involves a medically induced seizure.	( )	( )	( )	( )	( )
During *ECT*, the patient experiences a grand mal seizure.	( )	( )	( )	( )	( )
Unmodified ECT is no longer practiced anywhere in the world.	( )	( )	( )	( )	( )
Generally considered for adult patients, *ECT* is also a psychiatric treatment for patients under the age of 18.	( )	( )	( )	( )	( )
A patient can undergo unlimited *courses* of *ECT* over a lifetime.	( )	( )	( )	( )	( )
ECT is also considered a prophylactic treatment for recurrent major depression.	( )	( )	( )	( )	( )
ECT is an effective treatment for schizophrenia.	( )	( )	( )	( )	( )
ECT prevents suicide.	( )	( )	( )	( )	( )
Judging by relapse rates, *ECT* is a highly effective treatment for depression.	( )	( )	( )	( )	( )
ECT causes some permanent memory loss.	( )	( )	( )	( )	( )
Memory loss following *ECT* is distinctive.	( )	( )	( )	( )	( )

(Please turn over ...)

KNOWLEDGE (continued)	Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
Persistent memory related side effects post-*ECT*, are more likely due to depression.	( )	( )	( )	( )	( )
Memory-related side effects after *modified ECT* disappear after a few days.	( )	( )	( )	( )	( )
Only *unmodified ECT* causes memory-related side effects that can persist for years.	( )	( )	( )	( )	( )
There are no memory related side effects following *unilateral ECT.*	( )	( )	( )	( )	( )
Memory related side effects can sometimes persist for years after *ECT.*	( )	( )	( )	( )	( )
ECT-related memory loss can be a source of psychological distress.	( )	( )	( )	( )	( )
Long-term psychological distress can be a side effect of *ECT.*	( )	( )	( )	( )	( )
Only patients who are forced to undergo *ECT,* fear the procedure.	( )	( )	( )	( )	( )
ATTITUDES					
ECT-related memory loss is a myth.	( )	( )	( )	( )	( )
If recommended by my treating doctor, I would undergo *ECT.*	( )	( )	( )	( )	( )
Criticisms about *ECT* are unjustified.	( )	( )	( )	( )	( )
Modified ECT is safer than *unmodified ECT.*	( )	( )	( )	( )	( )

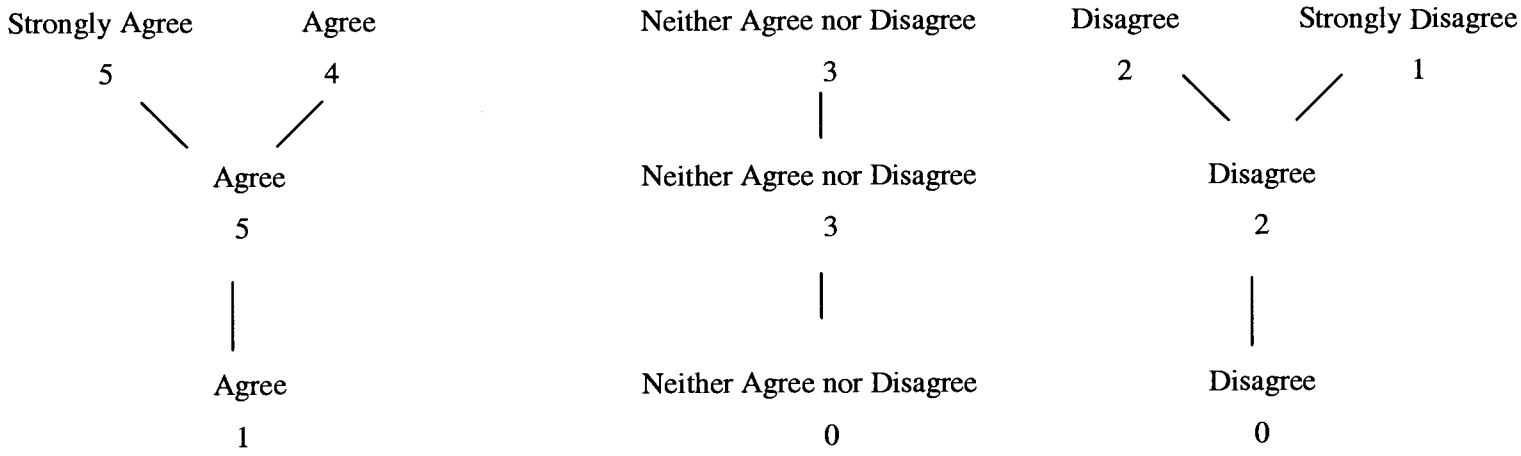
ADDITIONAL COMMENTS (OPTIONAL)
Please provide further comments about your professional experience working with clients who have undergo ECT. In particular, please comments on issues related to supporting these clients.

Thank you for your co-operation
*****

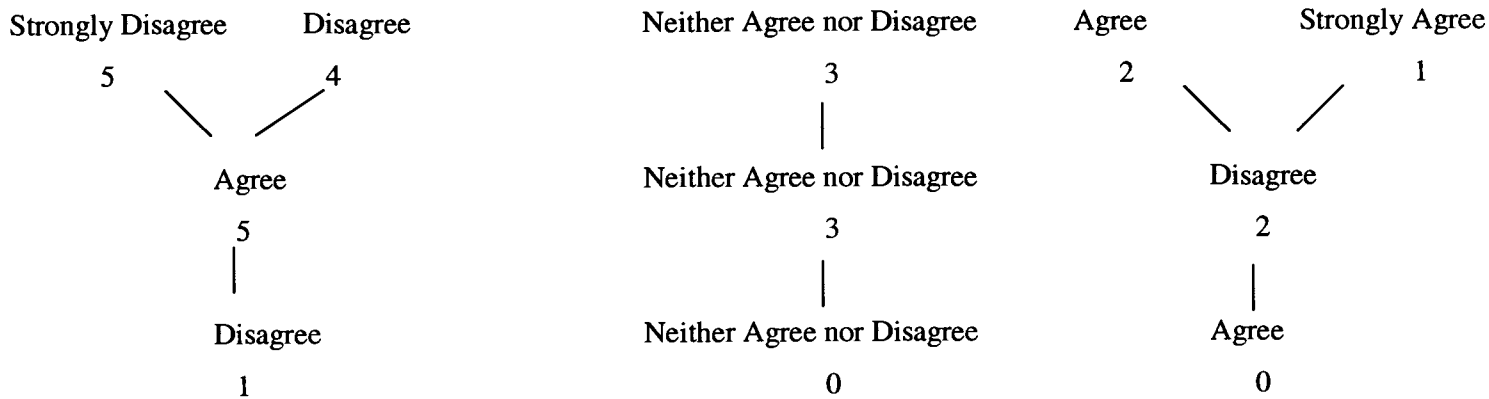
Appendix 9

CODING FOR ITEMS IN THE FINAL QUESTIONNAIRE

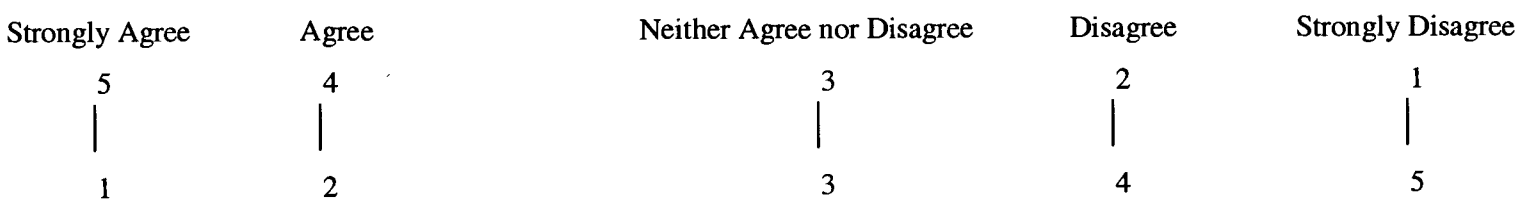
Items 1, 2, 3, 5, 6, 7, 11, 12, 17, 18 and 19 (Knowledge)



Items 4, 8, 9, 10, 13, 14, 15, 16, 20 (Knowledge)



Items 21, 22, 23, 24 (Attitudes)



APPENDIX 10

LETTER TO REGISTRAR OF WESTERN AUSTRALIAN REGISTRATION BOARD OF PSYCHOLOGISTS

Dear

I am undertaking studies in the Doctor of Psychology (Clinical Psychology) program at Edith Cowan University. My supervisor is Professor Alison Garton.

As part of my study I have elected to do a survey of clinical psychologists in Western Australia. The survey involves a questionnaire which is segmented into demographic details; knowledge of electroconvulsive therapy (ECT); and attitudes towards ECT. The 25-item questionnaire is constructed using evidence-based literature. Overseas studies indicate that psychologists score poorly on knowledge about ECT. As far as I can ascertain, a similar study has not been carried out in Western Australia. Deficits in knowledge, in particular about side effects of ECT, have implications for the practice of psychology.

Further to my telephone contact with the office of the Board, I write to request a mailing list of clinical psychologists registered in Western Australia. Coding the mailing list and matching codes to envelopes will protect anonymity of members. On receipt of the returned envelopes, the matching number on the mailing list will be crossed off before opening the envelope. Coding is necessary should a follow up letter be required.

The project has been approved by the University Ethics Committee, Edith Cowan University.

If you have any queries at all about this project, please feel free to contact me (via the School Secretary) on 9400 5551 or my supervisor's secretary, Ms Carole Gamsby on 9400 5526.

Yours sincerely

DAWN A BARRETT
DPsych. Candidate
School of Psychology

PROFESSOR ALISON GARTON
Professor of Psychology
School of Psychology

APPENDIX 11

LETTER OF INTRODUCTION SENT TO CLINICAL PSYCHOLOGISTS

Dear

Electroconvulsive Therapy: An Assessment of Experience, Knowledge and Attitudes of Clinical Psychologists in Western Australia

I am undertaking studies in the Doctor of Psychology (Clinical Psychology) program at Edith Cowan University. My supervisor is Professor Alison Garton.

As part of my study I have elected to do a survey of clinical psychologists in Western Australia. The survey involves a questionnaire which is segmented into demographic details; knowledge of electroconvulsive therapy (ECT); and attitudes towards ECT. The 25-item questionnaire is constructed using evidence-based literature. Overseas studies indicate that psychologists score poorly on knowledge about ECT, and deficits in knowledge have implications for the practice of psychology. As far as I can ascertain, a similar study has not been carried out in Western Australia.

The questionnaire should take no more than 10 minutes to complete. Please feel free to add comments in the area provided. Confidentiality of data is assured. Data collected will be kept in a secure locked cabinet in the School of Psychology. Anonymity of respondents will be protected through a coding system. Codes on the returned envelopes will be crossed off the master list prior to opening envelopes. Non-responders identified from the master list will receive follow-up mail. As the number of clinical psychologists is relatively small in Western Australia, your co-operation is appreciated.

If you have any queries at all about this project, please feel free to contact me (via the School Secretary) on 6304 5551 or my supervisor's secretary, Ms Carole Gamsby on 6304 5526.

Yours sincerely

Dawn A Barrett
Doctor of Psychology Candidate
School of Psychology

Professor Alison Garton
Professor of Psychology
School of Psychology

Enc.

APPENDIX 12

TABLES OF RESULTS REFERRED TO IN CHAPTER SEVEN

Table 1

Breakdown of graduates by decade for all respondents.

Decade	Frequency	%	Valid %	Cumulative %
1960-1969	2	1.1	1.1	1.1
1970-1979	22	11.8	12.0	13.1
1980-1989	60	32.3	32.8	45.9
1990-1999	84	45.2	45.9	91.8
2000-	15	8.1	8.2	100.0
Total	183	98.4	100.0	
Missing	3	1.6		
Total	186			

Table 2

Breakdown of graduates by decade for respondents with more than five years experience working in an ECT setting.

Decade	Frequency	%	Valid %	Cumulative %
1960-1969	1	2.3	2.3	2.3
1970-1979	7	15.6	15.9	18.2
1980-1989	19	42.2	43.2	61.4
1990-1999	14	31.1	31.8	93.2
2000-	3	6.7	6.8	100.0
Total	44	97.8	100.0	
Missing	1	2.8		
Total	45			

Table 3

Breakdown of graduates by decade for respondents with less than one year's experience in an ECT setting.

Decade	Frequency	%	Valid %	Cumulative %
1960-1969	-	-	-	-
1970-1979	4	11.1	11.1	11.1
1980-1989	13	36.1	36.1	47.2
1990-1999	16	44.4	44.4	91.7
2000-	3	8.3	8.3	100.0
Total	36	100.0	100.0	

Table 4

Breakdown of graduates by decade for respondents with nil experience in an ECT setting.

Decade	Frequency	%	Valid %	Cumulative %
1960-1969	1	1.6	1.6	1.6
1970-1979	4	6.5	6.5	8.1
1980-1989	18	29.0	29.0	37.1
1990-1999	34	54.8	54.8	91.9
2000-	5	8.1	8.1	100.0
Total	62	100.0	100.0	

Table 5

Self-rating of ECT knowledge by respondents with experience and those with nil experience of working in an ECT setting.

> 5 years experience in an ECT setting (n = 45)	
High	13%
Moderate	58%
Minimum	27%
Non-existent	-
< 1 year experience in an ECT setting (n = 36)	
High	3%
Moderate	14%
Minimum	78%
Non-existent	7%
Nil experience in an ECT setting (n = 62)	
High	-
Moderate	16%
Minimum	71%
Non-existent	16%

Table 6

Sources of ECT Knowledge as Reported by Respondents with Experience and those with Nil Experience of Working in an ECT Environment

Category	Count	% of Cases
> 5 years experience in an ECT setting (n = 44)		
Movies	2	4.5
Scientific Literature	30	68.2
Colleagues	42	95.5
Clients	30	68.2
Family	2	4.5
Friends	4	9.1
Total	110	250
< 1 year experience in an ECT setting (n = 35)		
Movies	8	22.9
Scientific Literature	18	51.4
Colleagues	31	88.6
Clients	20	57.1
Family	4	11.4
Friends	5	14.3
Total	86	245.7
< nil experience in an ECT setting (n = 56)		
Movies	12	21.4
Scientific Literature	39	69.6
Colleagues	37	66.1
Clients	20	35.7
Family	5	8.9
Friends	2	3.6
Total	115	205.4

Table 7

Other Sources of ECT Knowledge as Cited by All Respondents

Other	Frequency	%	Valid %	Cumulative %
Not selected	144	77.4	77.4	77.4
Popular press	5	2.7	2.7	80.1
University lectures	9	4.8	4.8	84.9
Internet	1	0.5	0.5	85.5
TV documentaries	2	1.1	1.1	86.6
Non-scientific literature	1	0.5	0.5	87.1
Ward rounds	1	0.5	0.5	87.6
Watching ECT sessions	12	6.5	6.5	94.1
Psychiatric nursing experience	4	2.2	2.2	96.2
Experience of working in an ECT setting (non-specified)	6	3.2	3.2	99.5
Research thesis	1	0.5	0.5	100.0
Total	186	100.0	100.0	

Table 8

Rating of ECT knowledge by respondents with experience and those with nil experience of working in an ECT setting.

> 5 years experience in an ECT setting (n = 39)	
High	35.9%
Moderate	64.1%
Low	-
< 1 year experience in an ECT setting (n = 33)	
High	27.3%
Moderate	63.6%
Minimum	9.1%
Nil experience in an ECT setting (n = 58)	
High	22.4%
Moderate	52.5%
Minimum	22.4%

APPENDIX 13

FREQUENCES FOR ITEMS 1 TO 20 FROM CLINICAL PSYCHOLOGISTS

Item 1: ECT is a psychiatric procedure.

	Frequency	%	Valid %	Cumulative %
Agree	174	93.5	93.5	93.5
Disagree	5	2.7	2.7	96.2
Neither agree nor disagree	7	3.8	3.8	100.0
Total	186	100.0	100.0	

Item 2: ECT involves a medically induced seizure.

	Frequency	%	Valid %	Cumulative %
Agree	169	90.9	90.9	90.9
Disagree	8	4.3	4.3	95.2
Neither agree nor disagree	9	4.8	4.8	100.0
Total	186	100.0	100.0	

Item 3: During ECT, the patient experiences a grand mal seizure.

	Frequency	%	Valid %	Cumulative %
Agree	85	45.7	46.4	46.4
Disagree	37	19.9	20.2	66.7
Neither agree nor disagree	61	32.8	33.3	100.0
Total	183	98.4	100.0	
Missing	3	1.6		
Total	186	100.0		

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	Frequency	%	Valid %	Cumulative %
Disagree	63	33.9	34.2	34.2
Agree	38	20.4	20.7	54.9
Neither agree nor disagree	83	44.6	45.1	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	Frequency	%	Valid %	Cumulative %
Agree	81	43.5	44.0	44.0
Disagree	48	25.8	26.1	70.1
Neither agree nor disagree	55	29.6	29.9	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	Frequency	%	Valid %	Cumulative %
Agree	52	28.0	28.4	28.4
Disagree	102	54.8	55.7	84.2
Neither agree nor disagree	29	15.6	15.8	100.0
Total	183	98.4	100.0	
Missing	3	1.6		
Total	186	100.0		

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	Frequency	%	Valid %	Cumulative %
Agree	115	61.8	62.2	62.2
Disagree	47	25.3	25.4	87.6
Neither agree nor disagree	23	12.4	12.4	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 8: ECT is an effective treatment for schizophrenia.

	Frequency	%	Valid %	Cumulative %
Disagree	131	70.4	70.4	70.4
Agree	13	7.0	7.0	77.4
Neither agree nor disagree	42	22.6	22.6	100.0
Total	186	100.0	100.0	

Item 9: ECT prevents suicide.

	Frequency	%	Valid %	Cumulative %
Disagree	85	45.7	45.7	45.7
Agree	47	25.3	25.3	71.0
Neither agree nor disagree	54	29.0	29.0	100.0
Total	186	100.0	100.0	

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	Frequency	%	Valid %	Cumulative %
Disagree	65	34.9	35.1	35.1
Agree	45	24.2	24.3	59.5
Neither agree nor disagree	75	40.3	40.5	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 11: ECT causes some permanent memory loss.

	Frequency	%	Valid %	Cumulative %
Agree	114	61.3	62.0	62.0
Disagree	28	15.1	15.2	77.2
Neither agree nor disagree	42	22.6	22.8	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 12: Memory loss following ECT is distinctive.

	Frequency	%	Valid %	Cumulative %
Agree	102	54.8	55.4	55.4
Disagree	16	8.6	8.7	64.1
Neither agree nor disagree	66	35.5	35.9	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	Frequency	%	Valid %	Cumulative %
Disagree	99	53.2	53.5	53.5
Agree	26	14.0	14.1	67.6
Neither agree nor disagree	60	32.3	32.4	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 14: Memory related side effects after modified ECT disappear after a few days.

	Frequency	%	Valid %	Cumulative %
Disagree	59	31.7	32.1	32.1
Agree	55	29.6	29.9	62.0
Neither agree nor disagree	70	37.6	38.0	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	Frequency	%	Valid %	Cumulative %
Disagree	82	44.1	44.3	44.3
Agree	13	7.0	7.0	51.4
Neither agree nor disagree	90	48.4	48.6	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 16: There are no memory related side effects following unilateral ECT.

	Frequency	%	Valid %	Cumulative %
Disagree	90	48.4	48.9	48.9
Agree	7	3.8	3.8	52.7
Neither agree nor disagree	87	46.8	47.3	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 17: Memory related side effects can sometimes persist for years after ECT.

	Frequency	%	Valid %	Cumulative %
Agree	102	54.8	55.1	55.1
Disagree	20	10.8	10.8	65.9
Neither agree nor disagree	63	33.9	34.1	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 18: ECT-related memory loss can be a source of psychological distress.

	Frequency	%	Valid %	Cumulative %
Agree	166	89.2	89.7	89.7
Disagree	2	1.1	1.1	90.8
Neither agree nor disagree	17	9.1	9.2	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 19: Long-term psychological distress can be a side effect of ECT.

	Frequency	%	Valid %	Cumulative %
Agree	88	47.3	47.6	47.6
Disagree	25	13.4	13.5	61.6
Neither agree nor disagree	72	38.7	38.9	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	Frequency	%	Valid %	Cumulative %
Agree	157	84.4	85.3	85.3
Disagree	3	1.6	1.6	87.0
Neither agree nor disagree	24	12.9	13.0	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

APPENDIX 14

FREQUENCIES FOR ITEMS 1 TO 20 FROM CLINICAL PSYCHOLOGISTS WITH MORE THAN FIVE YEARS' EXPERIENCE IN AN ECT SETTING

Item 1: ECT is a psychiatric procedure.

	Frequency	%	Valid %	Cumulative %
Agree	42	93.3	93.3	93.3
Disagree	1	2.2	2.2	95.6
Neither agree nor disagree	2	4.4	4.4	100.0
Total	45	100.0	100.0	

Item 2: ECT involves a medically induced seizure.

	Frequency	%	Valid %	Cumulative %
Agree	43	95.6	95.6	95.6
Disagree	2	4.4	4.4	100.0
Total	45	100.0	100.0	

Item 3: During ECT, the patient experiences a grand mal seizure.

	Frequency	%	Valid %	Cumulative %
Agree	28	62.2	63.6	63.6
Disagree	11	24.4	25.0	88.6
Neither agree nor disagree	5	11.1	11.4	100.0
Total	44	97.8	100.0	
Missing	1	2.2		
Total	45	100.0		

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	Frequency	%	Valid %	Cumulative %
Disagree	17	37.8	38.2	38.6
Agree	12	26.7	27.3	65.9
Neither agree nor disagree	15	33.3	34.1	100.0
Total	44	97.8	100.0	
Missing	1	2.2		
Total	45	100.0		

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	Frequency	%	Valid %	Cumulative %
Agree	16	35.6	37.2	37.2
Disagree	13	28.9	30.2	67.4
Neither agree nor disagree	14	31.1	32.6	100.0
Total	43	95.6	100.0	
Missing	2	4.4		
Total	45	100.0		

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	Frequency	%	Valid %	Cumulative %
Agree	17	37.8	39.5	39.5
Disagree	18	40.0	41.9	81.4
Neither agree nor disagree	8	17.8	18.6	100.0
Total	43	95.6	100.0	
Missing	2	4.4		
Total	45	100.0		

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	Frequency	%	Valid %	Cumulative %
Agree	29	64.4	64.4	64.4
Disagree	13	28.9	28.9	93.3
Neither agree nor disagree	3	6.7	6.7	100.0
Total	45	100.0	100.0	

Item 8: ECT is an effective treatment for schizophrenia.

	Frequency	%	Valid %	Cumulative %
Disagree	34	75.6	75.6	75.6
Agree	5	11.1	11.1	86.7
Neither agree nor disagree	6	13.3	13.3	100.0
Total	45	100.0	100.0	

Item 9: ECT prevents suicide.

	Frequency	%	Valid %	Cumulative %
Disagree	21	46.7	46.7	46.7
Agree	15	33.3	33.3	80.0
Neither agree nor disagree	9	20.0	20.0	100.0
Total	45	100.0	100.0	

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	Frequency	%	Valid %	Cumulative %
Disagree	20	44.4	44.4	44.4
Agree	10	22.2	22.2	66.7
Neither agree nor disagree	15	33.3	33.3	100.0
Total	45	100.0	100.0	

Item 11: ECT causes some permanent memory loss.

	Frequency	%	Valid %	Cumulative %
Agree	26	57.8	59.1	59.1
Disagree	12	26.7	27.3	86.4
Neither agree nor disagree	6	13.3	13.6	100.0
Total	44	97.8	100.0	
Missing	1	2.2		
Total	45	100.0		

Item 12: Memory loss following ECT is distinctive.

	Frequency	%	Valid %	Cumulative %
Agree	34	75.6	75.6	75.6
Disagree	3	6.7	6.7	82.2
Neither agree nor disagree	8	17.8	17.8	100.0
Total	45	100.0	100.0	

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	Frequency	%	Valid %	Cumulative %
Disagree	23	51.1	51.1	51.1
Agree	12	26.7	26.7	77.8
Neither agree nor disagree	10	22.2	22.2	100.0
Total	45	100.0	100.0	

Item 14: Memory related side effects after modified ECT disappear after a few days.

	Frequency	%	Valid %	Cumulative %
Disagree	17	37.8	37.8	37.8
Agree	16	35.6	35.6	73.3
Neither agree nor disagree	12	26.7	26.7	100.0
Total	45	100.0	100.0	

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	Frequency	%	Valid %	Cumulative %
Disagree	22	48.9	48.9	48.9
Agree	5	11.1	11.1	60.0
Neither agree nor disagree	18	40.0	40.0	100.0
Total	45	100.0	100.0	

Item 16: There are no memory related side effects following unilateral ECT.

	Frequency	%	Valid %	Cumulative %
Disagree	30	66.7	66.7	66.7
Agree	2	4.4	4.4	71.1
Neither agree nor disagree	13	28.9	28.9	100.0
Total	45	100.0	100.0	

Item 17: Memory related side effects can sometimes persist for years after ECT.

	Frequency	%	Valid %	Cumulative %
Agree	26	57.8	57.8	57.8
Disagree	8	17.8	17.8	75.6
Neither agree nor disagree	11	24.4	24.4	100.0
Total	45	100.0	100.0	

Item 18: ECT-related memory loss can be a source of psychological distress.

	Frequency	%	Valid %	Cumulative %
Agree	43	95.6	95.6	95.6
Disagree	1	2.2	2.2	97.8
Neither agree nor disagree	1	2.2	2.2	100.0
Total	45	100.0	100.0	

Item 19: Long-term psychological distress can be a side effect of ECT.

	Frequency	%	Valid %	Cumulative %
Agree	22	48.9	48.9	48.9
Disagree	9	20.0	20.0	68.9
Neither agree nor disagree	14	31.1	31.1	100.0
Total	45	100.0	100.0	

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	Frequency	%	Valid %	Cumulative %
Agree	36	80.0	80.0	80.0
Disagree	2	4.4	4.4	84.4
Neither agree nor disagree	7	15.6	15.6	100.0
Total	45	100.0	100.0	

APPENDIX 15

FREQUENCIES FOR ITEMS 1 TO 20 FROM CLINICAL PSYCHOLOGISTS WITH LESS THAN ONE YEAR'S EXPERIENCE IN AN ECT SETTING

Item 1: ECT is a psychiatric procedure.

	Frequency	%	Valid %	Cumulative %
Agree	34	94.4	94.4	94.4
Disagree	2	5.6	5.6	100.0
Total	36	100.0	100.0	

Item 2: ECT involves a medically induced seizure.

	Frequency	%	Valid %	Cumulative %
Agree	34	94.4	94.4	94.4
Disagree	1	2.8	2.8	97.2
Neither agree nor disagree	1	2.8	2.8	100.0
Total	36	100.0	100.0	

Item 3: During ECT, the patient experiences a grand mal seizure.

	Frequency	%	Valid %	Cumulative %
Agree	18	50.0	50.0	50.0
Disagree	4	11.1	11.1	61.1
Neither agree nor disagree	14	38.9	38.9	100.0
Total	36	100.0		

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	Frequency	%	Valid %	Cumulative %
Disagree	11	30.6	30.6	30.6
Agree	4	11.1	11.1	41.7
Neither agree nor disagree	21	58.3	58.3	100.0
Total	36	100.0	100.0	

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	Frequency	%	Valid %	Cumulative %
Agree	13	36.1	36.1	36.1
Disagree	9	25.0	25.0	61.1
Neither agree nor disagree	14	38.9	38.9	100.0
Total	36	100.0		

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	Frequency	%	Valid %	Cumulative %
Agree	10	27.8	28.6	28.6
Disagree	23	63.9	65.7	94.3
Neither agree nor disagree	2	5.6	5.7	100.0
Total	35	97.2	100.0	
Missing	1	2.8		
Total	36	100.0		

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	Frequency	%	Valid %	Cumulative %
Agree	23	63.9	65.7	65.7
Disagree	7	19.4	20.0	85.7
Neither agree nor disagree	5	13.9	14.3	100.0
Total	35	97.2	100.0	
Missing	1	2.8		
Total	36	100.0		

Item 8: ECT is an effective treatment for schizophrenia.

	Frequency	%	Valid %	Cumulative %
Disagree	24	66.7	66.7	66.7
Agree	1	2.8	2.8	69.4
Neither agree nor disagree	11	30.6	30.6	100.0
Total	36	100.0	100.0	

Item 9: ECT prevents suicide.

	Frequency	%	Valid %	Cumulative %
Disagree	12	33.3	33.3	33.3
Agree	12	33.3	33.3	66.7
Neither agree nor disagree	12	33.3	33.3	100.0
Total	36	100.0	100.0	

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	Frequency	%	Valid %	Cumulative %
Disagree	13	36.1	36.1	36.1
Agree	12	33.3	33.3	69.4
Neither agree nor disagree	11	30.6	30.6	100.0
Total	36	100.0	100.0	

Item 11: ECT causes some permanent memory loss.

	Frequency	%	Valid %	Cumulative %
Agree	24	66.7	66.7	66.7
Disagree	4	11.1	11.1	77.8
Neither agree nor disagree	8	22.2	22.2	100.0
Total	36	100.0		

Item 12: Memory loss following ECT is distinctive.

	Frequency	%	Valid %	Cumulative %
Agree	15	41.7	42.9	42.9
Disagree	4	11.1	11.4	54.3
Neither agree nor disagree	16	44.4	45.7	100.0
Total	35	97.2	100.0	
Missing	1	2.8		
Total	36	100.0		

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	Frequency	%	Valid %	Cumulative %
Disagree	22	61.1	61.1	61.1
Agree	4	11.1	11.1	72.2
Neither agree nor disagree	10	27.8	27.8	100.0
Total	36	100.0	100.0	

Item 14: Memory-related side effects after modified ECT disappear after a few days.

	Frequency	%	Valid %	Cumulative %
Disagree	12	33.3	33.3	33.3
Agree	9	25.0	25.0	58.3
Neither agree nor disagree	15	41.7	41.7	100.0
Total	36	100.0	100.0	

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	Frequency	%	Valid %	Cumulative %
Disagree	18	50.0	50.0	50.0
Agree	3	8.3	8.3	58.3
Neither agree nor disagree	15	41.7	41.7	100.0
Total	36	100.0	100.0	

Item 16: There are no memory related side effects following unilateral ECT.

	Frequency	%	Valid %	Cumulative %
Disagree	20	55.6	55.6	55.6
Neither agree nor disagree	16	44.4	44.4	100.0
Total	36	100.0	100.0	

Item 17: Memory related side effects can sometimes persist for years after ECT.

	Frequency	%	Valid %	Cumulative %
Agree	24	66.7	66.7	66.7
Disagree	5	13.9	13.9	80.6
Neither agree nor disagree	7	19.4	19.4	100.0
Total	36	100.0	100.0	

Item 18: ECT-related memory loss can be a source of psychological distress.

	Frequency	%	Valid %	Cumulative %
Agree	32	88.9	88.9	88.9
Neither agree nor disagree	4	11.1	11.1	100.0
Total	36	100.0	100.0	

Item 19: Long-term psychological distress can be a side effect of ECT.

	Frequency	%	Valid %	Cumulative %
Agree	17	47.2	47.2	47.2
Disagree	5	13.9	13.9	61.1
Neither agree nor disagree	14	38.9	38.9	100.0
Total	36	100.0	100.0	

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	Frequency	%	Valid %	Cumulative %
Disagree	31	86.1	86.1	86.1
Neither agree nor disagree	5	13.9	13.9	100.0
Total	36	100.0	100.0	

APPENDIX 16

FREQUENCIES FOR ITEMS 1 TO 20 FROM CLINICAL PSYCHOLOGISTS WITH NIL EXPERIENCE IN AN ECT SETTING

Item 1: ECT is a psychiatric procedure.

	Frequency	%	Valid %	Cumulative %
Agree	55	88.7	88.7	88.7
Disagree	2	3.2	3.2	91.9
Neither agree nor disagree	5	8.1	8.1	100.0
Total	62	100.0	100.0	

Item 2: ECT involves a medically induced seizure.

	Frequency	%	Valid %	Cumulative %
Agree	50	80.6	80.6	80.6
Disagree	4	6.5	6.5	87.1
Neither agree nor disagree	8	12.9	12.9	100.0
Total	62	100.0	100.0	

Item 3: During ECT, the patient experiences a grand mal seizure.

	Frequency	%	Valid %	Cumulative %
Agree	17	27.4	27.9	27.9
Disagree	14	22.6	23.0	50.8
Neither agree nor disagree	30	48.4	49.2	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	Frequency	%	Valid %	Cumulative %
Disagree	19	30.6	30.6	30.6
Agree	15	24.2	24.2	54.8
Neither agree nor disagree	28	45.2	45.2	100.0
Total	62	100.0	100.0	

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	Frequency	%	Valid %	Cumulative %
Agree	31	50.0	50.0	50.0
Disagree	14	22.6	22.6	72.6
Neither agree nor disagree	17	27.4	27.4	100.0
Total	62	100.0	100.0	

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	Frequency	%	Valid %	Cumulative %
Agree	9	14.5	14.5	14.5
Disagree	40	64.5	64.5	79.0
Neither agree nor disagree	13	21.0	21.0	100.0
Total	62	100.0	100.0	

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	Frequency	%	Valid %	Cumulative %
Agree	39	62.9	62.9	62.9
Disagree	15	24.2	24.2	87.1
Neither agree nor disagree	8	12.9	12.9	100.0
Total	62	100.0	100.0	

Item 8: ECT is an effective treatment for schizophrenia.

	Frequency	%	Valid %	Cumulative %
Disagree	40	64.5	64.5	64.5
Agree	6	9.7	9.7	74.2
Neither agree nor disagree	16	25.8	25.8	100.0
Total	62	100.0	100.0	

Item 9: ECT prevents suicide.

	Frequency	%	Valid %	Cumulative %
Disagree	29	46.8	46.8	46.8
Agree	11	17.7	17.7	64.5
Neither agree nor disagree	22	35.5	35.5	100.0
Total	62	100.0	100.0	

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	Frequency	%	Valid %	Cumulative %
Disagree	16	25.8	25.8	25.8
Agree	12	19.4	19.4	45.2
Neither agree nor disagree	34	54.8	54.8	100.0
Total	62	100.0	100.0	

Item 11: ECT causes some permanent memory loss.

	Frequency	%	Valid %	Cumulative %
Agree	38	61.3	61.3	61.3
Disagree	7	11.3	11.3	72.6
Neither agree nor disagree	17	27.4	27.4	100.0
Total	62	100.0		

Item 12: Memory loss following ECT is distinctive.

	Frequency	%	Valid %	Cumulative %
Agree	23	37.1	37.7	37.7
Disagree	2	3.2	3.3	41.0
Neither agree nor disagree	36	58.1	59.0	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	Frequency	%	Valid %	Cumulative %
Disagree	31	50.0	50.8	50.8
Agree	4	6.5	6.6	57.4
Neither agree nor disagree	26	41.9	42.6	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 14: Memory-related side effects after modified ECT disappear after a few days.

	Frequency	%	Valid %	Cumulative %
Disagree	14	22.6	23.0	23.0
Agree	16	25.8	26.2	49.2
Neither agree nor disagree	31	50.0	50.8	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	Frequency	%	Valid %	Cumulative %
Disagree	22	35.5	36.1	36.1
Agree	3	4.8	4.9	41.0
Neither agree nor disagree	36	58.1	59.0	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 16: There are no memory related side effects following unilateral ECT.

	Frequency	%	Valid %	Cumulative %
Disagree	21	33.9	34.4	34.4
Agree	3	4.8	4.9	39.3
Neither agree nor disagree	37	59.7	60.7	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 17: Memory related side effects can sometimes persist for years after ECT.

	Frequency	%	Valid %	Cumulative %
Agree	28	45.2	45.9	45.9
Disagree	4	6.5	6.6	52.5
Neither agree nor disagree	29	46.8	47.5	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 18: ECT-related memory loss can be a source of psychological distress.

	Frequency	%	Valid %	Cumulative %
Agree	52	83.9	85.2	85.2
Disagree	1	1.6	1.6	86.9
Neither agree nor disagree	8	12.9	13.1	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 19: Long-term psychological distress can be a side effect of ECT.

	Frequency	%	Valid %	Cumulative %
Agree	25	40.3	41.0	41.0
Disagree	3	4.8	4.9	45.9
Neither agree nor disagree	33	53.2	54.1	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	Frequency	%	Valid %	Cumulative %
Disagree	49	79.0	81.7	81.7
Agree	1	1.6	1.7	83.3
Neither agree nor disagree	10	16.1	16.7	100.0
Total	60	96.8	100.0	
Missing	2	3.2		
Total	62	100.0		

APPENDIX 17

COMPARISON OF FREQUENCIES FOR ITEMS 1 TO 20 FOR CLINICAL PSYCHOLOGISTS WITH EXPERIENCE AND NIL EXPERIENCE IN AN ECT SETTING

Item 1: ECT is a psychiatric procedure.

	All respondents (n = 186)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Agree	93.5	93.3	94.4	88.7
Disagree	2.7	2.2	5.6	3.2
Neither agree nor disagree	3.8	4.4	-	8.1

Item 2: ECT involves a medically induced seizure.

	All respondents (n = 186)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Agree	90.9	95.6	94.4	80.6
Disagree	4.3	4.4	2.8	6.5
Neither agree nor disagree	4.8	-	2.8	12.9

Item 3: During ECT, the patient experiences a grand mal seizure.

	All respondents (n = 183)	> 5 years Experience (n = 44)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Agree	46.4	63.6	50.0	27.9
Disagree	20.2	25.0	11.1	23.0
Neither agree nor disagree	33.3	11.4	38.9	49.2

Item 4: Unmodified ECT is no longer practiced anywhere in the world.

	All respondents (n = 184)	> 5 years Experience (n = 44)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Disagree	34.2	38.2	30.6	30.6
Agree	20.7	27.3	11.1	24.2
Neither agree nor disagree	45.1	34.1	58.3	45.2

Item 5: Generally considered for adult patients, ECT is also a psychiatric treatment for patients under the age of 18.

	All respondents (n = 184)	> 5 years Experience (n = 43)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Agree	44.0	37.2	36.1	50.0
Disagree	26.1	30.2	25.0	22.6
Neither agree nor disagree	29.9	32.6	38.9	27.4

Item 6: A patient can undergo unlimited courses of ECT over a lifetime.

	All respondents (n = 183)	> 5 years Experience (n = 43)	< 1 Year's Experience (n = 35)	Nil Experience (n = 62)
Agree	28.4	39.5	28.6	14.5
Disagree	55.7	41.9	65.7	64.5
Neither agree nor disagree	15.8	18.6	5.7	21.0

Item 7: ECT is also considered a prophylactic treatment for recurrent major depression.

	All respondents (n = 185)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 35)	Nil Experience (n = 62)
Agree	62.2	64.4	65.7	62.9
Disagree	25.4	28.9	20.0	24.2
Neither agree nor disagree	12.4	6.7	14.3	12.9

Item 8: ECT is an effective treatment for schizophrenia.

	All respondents (n = 186)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Disagree	70.4	75.6	66.7	64.5
Agree	7.0	11.1	2.8	9.7
Neither agree nor disagree	22.6	13.3	30.6	25.8

Item 9: ECT prevents suicide.

	All respondents (n = 186)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Disagree	45.7	46.7	33.3	46.8
Agree	25.3	33.3	33.3	17.7
Neither agree nor disagree	29.0	20.0	33.3	35.5

Item 10: Judging by relapse rates, ECT is a highly effective treatment for depression.

	All respondents (n = 185)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Disagree	35.1	44.4	36.1	25.8
Agree	24.3	22.2	33.3	19.4
Neither agree nor disagree	40.5	33.3	30.6	54.8

Item 11: ECT causes some permanent memory loss.

	All respondents (n = 184)	> 5 years Experience (n = 44)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Agree	62.0	59.1	66.7	61.3
Disagree	15.2	27.3	11.1	11.3
Neither agree nor disagree	22.8	13.6	22.2	27.4

Item 12: Memory loss following ECT is distinctive.

	All respondents (n = 184)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 35)	Nil Experience (n = 61)
Agree	55.4	75.6	42.9	37.7
Disagree	8.7	6.7	11.4	3.3
Neither agree nor disagree	35.9	17.8	45.7	59.0

Item 13: Persistent memory related side effects post-ECT, are more likely due to depression.

	All respondents (n = 185)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Disagree	53.5	51.1	61.1	50.8
Agree	14.1	26.7	11.1	6.6
Neither agree nor disagree	32.4	22.2	27.8	42.6

Item 14: Memory related side effects after modified ECT disappear after a few days.

	All respondents (n = 184)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Disagree	32.1	37.8	33.3	23.0
Agree	29.9	35.6	25.0	26.2
Neither agree nor disagree	38.0	26.7	41.7	50.8

Item 15: Only unmodified ECT causes memory-related side effects that can persist for years.

	All respondents (n = 185)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Agree	44.3	48.9	50.0	36.1
Disagree	7.0	11.1	8.3	4.9
Neither agree nor disagree	48.6	40.0	41.7	59.0

Item 16: There are no memory related side effects following unilateral ECT.

	All respondents (n = 184)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Disagree	48.9	66.7	55.6	34.4
Agree	3.8	4.4	44.4	4.9
Neither agree nor disagree	47.3	28.9	-	60.7

Item 17: Memory related side effects can sometimes persist for years after ECT.

	All respondents (n = 185)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 62)
Agree	55.1	57.8	66.7	45.9
Disagree	10.8	17.8	13.9	6.6
Neither agree nor disagree	34.1	24.4	19.4	47.5

Item 18: ECT-related memory loss can be a source of psychological distress.

	All respondents (n = 185)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Agree	89.7	95.6	88.9	85.2
Disagree	1.1	2.2	11.1	1.6
Neither agree nor disagree	9.2	2.2	-	13.1

Item 19: Long-term psychological distress can be a side effect of ECT.

	All respondents (n = 185)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Agree	47.6	48.9	47.2	41.0
Disagree	13.5	20.0	13.9	4.9
Neither agree nor disagree	38.9	31.1	38.9	54.1

Item 20: Only patients who are forced to undergo ECT, fear the procedure.

	All respondents (n = 184)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 60)
Agree	85.3	80.0	86.1	81.7
Disagree	1.6	4.4	13.9	1.7
Neither agree nor disagree	13.0	15.6	-	16.7

APPENDIX 18
FREQUENCIES FOR ITEMS 21 TO 24 FROM CLINICAL PSYCHOLOGISTS

Item 21: ECT-related memory loss is a myth

	Frequency	%	Valid %	Cumulative %
Strongly disagree	60	32.3	32.6	32.6
Disagree	89	47.8	48.4	81.0
Neither agree nor disagree	27	14.5	14.7	95.7
Agree	7	3.8	3.8	99.5
Strongly agree	1	0.5	0.5	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 22: If recommended by my treating doctor, I would undergo ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	73	39.2	39.7	39.7
Disagree	52	28.0	28.3	67.9
Neither agree nor disagree	37	19.9	20.1	88.0
Agree	18	9.7	9.8	97.8
Strongly agree	4	2.2	2.2	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

Item 23: Criticisms about ECT are unjustified.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	40	21.5	21.6	21.6
Disagree	88	47.3	47.6	69.2
Neither agree nor disagree	35	18.8	18.9	88.1
Agree	22	11.8	11.9	100.0
Total	185	99.5	100.0	
Missing	1	0.5		
Total	186	100.0		

Item 24: Modified ECT is safer than unmodified ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	3	1.6	1.6	1.6
Disagree	5	2.7	2.7	4.3
Neither agree nor disagree	55	29.6	29.9	34.2
Agree	74	39.8	40.2	74.5
Strongly agree	47	25.3	25.5	100.0
Total	184	98.9	100.0	
Missing	2	1.1		
Total	186	100.0		

APPENDIX 19
FREQUENCIES FOR ITEMS 21 TO 24 FROM CLINICAL PSYCHOLOGISTS WITH MORE THAN FIVE YEARS' EXPERIENCE IN AN ECT SETTING

Item 21: ECT-related memory loss is a myth

	Frequency	%	Valid %	Cumulative %
Strongly disagree	19	42.2	42.2	42.2
Disagree	21	46.7	46.7	88.9
Neither agree nor disagree	2	4.4	4.4	93.3
Agree	3	6.7	6.7	100.0
Total	45	100.0	100.0	

Item 22: If recommended by my treating doctor, I would undergo ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	13	28.9	28.9	28.9
Disagree	9	20.0	20.0	48.9
Neither agree nor disagree	14	31.1	31.1	80.0
Agree	8	17.8	17.8	97.8
Strongly agree	1	2.2	2.2	100.0
Total	45	100.0	100.0	

Item 23: Criticisms about ECT are unjustified.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	11	24.4	24.4	24.4
Disagree	20	44.4	44.4	68.9
Neither agree nor disagree	7	15.6	15.6	84.4
Agree	7	15.6	15.6	100.0
Total	45	100.0	100.0	

Item 24: Modified ECT is safer than unmodified ECT.

	Frequency	%	Valid %	Cumulative %
Neither agree nor disagree	8	17.8	17.8	17.8
Agree	18	40.0	40.0	57.8
Strongly agree	19	42.2	42.2	100.0
Total	45	100.0	100.0	

APPENDIX 20
FREQUENCIES FOR ITEMS 21 TO 24 FROM CLINICAL PSYCHOLOGISTS WITH LESS THAN ONE YEAR'S EXPERIENCE IN AN ECT SETTING

Item 21: ECT-related memory loss is a myth

	Frequency	%	Valid %	Cumulative %
Strongly disagree	15	41.7	41.7	41.7
Disagree	12	33.3	33.3	75.0
Neither agree nor disagree	6	16.7	16.7	91.7
Agree	3	8.3	8.3	100.0
Total	36	100.0	100.0	

Item 22: If recommended by my treating doctor, I would undergo ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	13	36.1	37.1	37.1
Disagree	12	33.3	34.3	71.4
Neither agree nor disagree	5	13.9	14.3	85.7
Agree	4	11.1	11.4	97.1
Strongly agree	1	2.8	2.9	100.0
Total	35	97.2	100.0	
Missing	1	2.8		
Total	36	100.0		

Item 23: Criticisms about ECT are unjustified.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	8	22.2	22.2	22.2
Disagree	23	63.9	63.9	86.1
Neither agree nor disagree	1	2.8	2.8	88.9
Agree	4	11.1	11.1	100.0
Total	36	100.0	100.0	

Item 24: Modified ECT is safer than unmodified ECT.

	Frequency	%	Valid %	Cumulative %
Disagree	1	2.8	2.8	2.8
Neither agree nor disagree	14	38.9	38.9	41.7
Agree	14	38.9	38.9	80.6
Strongly agree	7	19.4	19.4	100.0
Total	36	100.0	100.0	

APPENDIX 21
FREQUENCIES FOR ITEMS 21 TO 24 FOR CLINICAL PSYCHOLOGISTS WITH NIL EXPERIENCE IN AN ECT SETTING

Item 21: ECT-related memory loss is a myth

	Frequency	%	Valid %	Cumulative %
Strongly disagree	11	17.7	18.3	18.3
Disagree	32	51.6	53.3	71.7
Neither agree nor disagree	16	25.8	26.7	98.3
Strongly agree	1	1.6	1.7	100.0
Total	60	96.8	100.0	
Missing	2	3.2		
Total	62	100.0		

Item 22: If recommended by my treating doctor, I would undergo ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	25	40.3	41.0	41.0
Disagree	21	33.9	34.4	75.4
Neither agree nor disagree	12	19.4	19.7	95.1
Agree	2	3.2	3.3	98.4
Strongly agree	1	1.6	1.6	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 23: Criticisms about ECT are unjustified.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	11	17.7	18.0	18.0
Disagree	29	46.8	47.5	65.6
Neither agree nor disagree	16	25.8	26.2	91.8
Agree	5	8.1	8.2	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

Item 24: Modified ECT is safer than unmodified ECT.

	Frequency	%	Valid %	Cumulative %
Strongly disagree	1	1.6	1.6	1.6
Disagree	3	4.8	4.9	6.6
Neither agree nor disagree	24	38.7	39.3	45.9
Agree	23	37.1	37.7	83.6
Strongly agree	10	16.1	16.4	100.0
Total	61	98.4	100.0	
Missing	1	1.6		
Total	62	100.0		

APPENDIX 22

COMPARISON OF FREQUENCIES FOR ITEMS 21 TO 24 FOR CLINICAL PSYCHOLOGISTS WITH EXPERIENCE AND NIL EXPERIENCE IN AN ECT SETTING

Item 21: ECT-related memory loss is a myth

	All respondents (n = 184)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 60)
Strongly disagree	32.6	42.2	41.7	18.3
Disagree	48.4	46.7	33.3	53.3
Neither agree nor disagree	14.7	4.4	16.7	26.7
Agree	3.8	6.7	8.3	-
Strongly agree	0.5	-	-	1.7

Item 22: If recommended by my treating doctor, I would undergo ECT.

	All respondents (n = 184)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 35)	Nil Experience (n = 61)
Strongly disagree	39.7	28.9	37.1	41.0
Disagree	28.3	20.0	34.3	34.4
Neither agree nor disagree	20.1	31.1	14.3	19.7
Agree	9.8	17.8	11.4	3.3
Strongly agree	2.2	2.2	2.9	1.6

Item 23: Criticisms about ECT are unjustified.

	All respondents (n = 185)	> 5 years Experience (n = 44)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Strongly disagree	21.6	24.4	22.2	18.0
Disagree	47.6	44.4	63.9	47.5
Neither agree nor disagree	18.9	15.6	2.8	26.2
Agree	11.9	15.6	11.1	8.2

Item 24: Modified ECT is safer than unmodified ECT.

	All respondents (n = 184)	> 5 years Experience (n = 45)	< 1 Year's Experience (n = 36)	Nil Experience (n = 61)
Strongly disagree	1.6	-	-	1.6
Disagree	2.7	-	2.8	4.9
Neither agree nor disagree	29.9	17.8	38.9	39.3
Agree	40.2	40.0	38.9	37.7
Strongly agree	25.5	42.2	19.4	16.4

APPENDIX 23

ELICITED COMMENTS FROM RESPONDENTS ABOUT PRACTICE ISSUES RELATED TO CLIENTS WHO HAVE UNDERGONE ECT

RESPONDENT 1
I have witnessed very severe effects following ECT. I am very strongly opposed to it and have advocated very strongly in several cases for patients not to undergo treatment.

RESPONDENT 2
I know very little about ECT. My main work is with youth so ECT is not used as a form of treatment for them. (4)

RESPONDENT 3
I would just like to add that I hope such research sheds light on the archaic and invasive, outdated nature of this procedure. I would hope that as psychologists that we are united in promoting more holistic approaches that serve to empower and enrich our clients' lives and do not disable them.

RESPONDENT 4
This contact was too long ago. Updated info appears easily accessible if you seek it actively.

RESPONDENT 5
Have had absolutely no experience or exposure so answers are simply from very little knowledge in the area.

RESPONDENT 6
Several of my clients have received ECT and some have benefited considerably. My only reservation about the procedure is that it is given (according to clients) as the first option and sometimes the only option. There seems to be a number of psychiatrists who have never heard of psychotherapy.

RESPONDENT 7
As a psychologist working in a neuropsychology setting for 10 years, I have seen many clients with memory loss following ECT but the medical profession are reluctant to acknowledge the problem and there is a lack of well-controlled studies. I think this topic is a worthwhile research topic.

RESPONDENT 8
You've highlighted that I really know very little about ECT, mainly because I don't work with clientele who have had ECT. I know it has value in treating depression in the elderly. Hence many of my responses are in the middle because I just don't know!

RESPONDENT 9
Many journal club presentations over many years. Made a small study of how many patients had ECT in each calendar year at X Hospital and outcomes. Had to be aware of above data for "political reasons" as a member of hospital executive over many years. As a clinical psychologist I had two unique experiences – I had responsibility for the planning, building and commissioning of (i) total rebuild/revamp of X Hospital, main ECT suite and (ii) planning, building and commissioning of small ECT facility in forensic inpatient unit at X Hospital. No externally apparent seizure apart from some

very minor twitches because ECT has long been given in modified form. "Seizure" still occurs at central level. Patient has no experience of this, but there is such a seizure at brain level – but not at body level.

RESPONDENT 10
ECT under specific conditions for example extreme depression or certain forms of schizophrenia after all other treatment has been tried, can be beneficial. As a last resort, can be successful. At the same time I need to tell you the amount of ECT given to patients (to so many patients) was shocking. In my view so many patients received ECT that I think was not warranted. Psychotherapy in itself would have cured many of these patients. [Referring to overseas experience]. If ECT is given the patient should receive PSYCHOTHERAPY by a clinical psychologist.

RESPONDENT 11
I had thought of some very useful experiences to share about ECT ... but I've forgotten ... must cut down on the ECT treatments ... alcohol ... TV ....

RESPONDENT 12
I do not have current contact with "psychiatric" clients or other groups receiving ECT currently or in the near past. My last period working within a mental health setting with exposure to ECT procedures was 28 years ago.

RESPONDENT 13
I have worked with clients who have undergone modified and unmodified ECT recently and in the distant past as inpatients and outpatients in the WA public adult mental health systems and at X academic service. Like any treatment, I think it can be used sensitively and constructively and effectively or it can be misused or used in a way that leaves the client feelings distressed and traumatised by the experience. The latter then complicates treatment and can hamper any beneficial effects which might be gained from the ECT. I think the nature of ECT and its side effects makes it particularly prone to leaving clients feeling disempowered and "done to" rather than feeling like active participants and collaborators in their treatment. This needs to be addressed carefully in the treating team and therapeutic relationship to maximise the potential benefits. I have seen both the positive and negative outcomes for patients and patients who have felt negative and positive about their treatment.

RESPONDENT 14
Have only seen two clients who have undergone ECT. Both reported significant, long-lasting memory problems which they attributed to their ECT treatment.

RESPONDENT 15
I am not familiar with current usage as I have worked for 10 years+ in business environments. In the 1970s inpatients had it like having a cup of coffee – routine. The drug evolution has no doubt modified its use significantly.

RESPONDENT 16
I have not worked in a psychiatric setting for several years and am uncertain about recent "modifications" to the procedure. However, I am a strong believer in mind/body interactions and I think such a "gross" intervention would be very counterproductive. I do believe we can change the biochemistry of the brain. Some psychiatrists think ECT is the only appropriate intervention for some people.

RESPONDENT 17
It seems from my experience that patients most likely to agree to ECT are often hopeless and passive in their cognition therefore in my opinion less competent to make decisions in their own best interests. As I work with young people under 25, relatively few have received ECT. Those who have do not seem to have benefited at all in the long-term. The best results I have seen with this group are short-term relief from some depressive symptoms, however, accompanied by memory loss. The least favourable results have included no symptom relief, considerable memory loss and pervasive sense of disempowerment. In my experience young people who have received ECT unsuccessfully have often had long-standing dysthymia within emerging personality disorder (borderline) rather than clear-cut depression.

RESPONDENT 18
My view regarding ECT is based on the belief that no one really knows how it works and that it is an invasive treatment. It should therefore be used only as a last resort in the context of chronic extreme depression which is unresponsive to other treatments or severe depression accompanied by a high risk of suicide which is not responsive to other treatments. My concern is that some psychiatrists in WA seem to be "trigger happy". Some have the reputation of using ECT as their preferred mode of treatment. I also have concerns about ECT being used for the treatment of schizophrenia. I'm not familiar with the literature but am of the opinion that it is inappropriate for schizophrenia.

RESPONDENT 19
I'm sorry – but I can't generalise to rights and wrongs. Assessing a patient's suitability (or for that matter reasons for good or poor results) is a matter for careful chemical appraisal. What may be the 'right' treatment for one patient is contraindicated in another.

RESPONDENT 20
My immediate experience working within a setting where ECT is regularly used is nearly 20 years ago.

RESPONDENT 21
Major issues of these clients "Have I been damaged long term?" "Is that why we have relationship problems?"

RESPONDENT 22
All I know about ECT is that in some circumstances (e.g. elderly) it has fewer side effects than medications. It is not a procedure that is in common usage for any of my client group (intellectual disability). Good luck with the research.

RESPONDENT 23
Sorry, I have very little about this procedure, which I have seen and looks hideous! As a psychologist, can I ask "Have you prejudiced your results with your letter saying that (we) score poorly on knowledge about ECT?"

RESPONDENT 24
I work with children and adolescents and their families in an outpatient mental health setting. Over a seven year period only one client (aged 17 years) was considered by our team psychiatrist for ECT treatment; which did not occur. Only one patient seen over the same period, who had a course of ECT. All the best with this study.

RESPONDENT 25
I underwent a significant change in my attitude to ECT after seeing the (sometimes) astonishing changes it can bring about in severely depressed people. I was also surprised to see how often it was used given that there is little discussion or education about it in clinical psychology training – or generally in the community.

RESPONDENT 26
Regarding memory loss, this is permanent retrograde amnesia but generally involves hours to days prior to treatment.

RESPONDENT 27
I have worked in a mental health facility where it was practised and some clients did experience a lift in severe depression, where other treatments were ineffective. Often clients wanted to use it as "blocking out trauma/abuse memories" for selective memory loss, which did not occur and they were often disappointed about that not occurring. Most did recover in 1-3 days. However, many were on psychotropic medication and had a range of deficiencies, so separating out effects was difficult. Literature does support modified ECT with severe depression.

RESPONDENT 28
Based on the current use of ECT, with severe recurrent depression, I believe it would be useful to better understand the mechanisms associated with change and the rationale provided for its use with clients.

RESPONDENT 29
Am strongly opposed to ECT when far better, more gentle treatments for depression exist.

RESPONDENT 30
Apologies for limited knowledge in this area. I work in a private practice and would refer severe psychiatric cases on where they have more global and available support.

RESPONDENT 31
The treatment should be a last resort for the most seriously depressed. It is a fact of life in psychiatric practice, empirically supported and can be effective in some cases. These cases need good support from a treatment team.

RESPONDENT 32
I have seen a number of clients in mental health clinics over the past five years in which ECT has been treatment of choice for "melancholic" depression. I have continued with supportive therapy prior to ECT with some clients to maintain therapeutic relationship.

RESPONDENT 33
Clients were inpatients in a psychiatric facility on large doses of psychotropics. Work was in a supportive capacity, mainly with their families.

RESPONDENT 34
Outside of an inpatient psychiatric setting my professional exposure/training in ECT has been limited. Mostly information informally gained by discussion with colleagues and psychiatrists over several years.

RESPONDENT 35
Some items difficult to answer. E.g. 2nd last item – everything can be usefully criticised. 3rd last knowledge item – psychological distress is subjective so ECT (like many things) is by nature always potentially distressful.

RESPONDENT 36
With severe depression, not helped by medication, ECT (modified) has a place in treatment. But patients need a great deal of reassurance and support.

RESPONDENT 37
My work is with parents some of whom have mental health problems. However, I do not know if they have had ECT or not.

RESPONDENT 38
Only worked with one 19 year old with postnatal depression and OCD. She was able to move, talk and look after her baby. It was unclear why ECT was necessary. Once administered psychology student (myself) and social work student were removed from involvement in the case. A family friend had multiple ECT courses for depression. In her 50s she developed motor neurone disease and died from it less than 10 years later. Some wondered if there was a connection as there was no family history of motor neurone disease.

RESPONDENT 39
Used selectively and skilfully ECT is useful. Used as a blanket treatment it is highly problematic.

RESPONDENT 40
Consultant psychiatrists I work with only use it a very few times/year (less than 5x) in cases where all reasonable alternatives have been tried and when it is described as treatment of choice in research literature e.g. psychotic depression, post-partum psychosis and "treatment resistant depression" when patient is highly at risk. It appears to have worked very rapidly in all cases I have seen. The clients have varied in their reactions, depending on side effects and their perceptions of ECT from what they have heard (relatives, friends, media). 'One Flew Over the Cuckoo's Nest' inevitably comes up in discussions. Staff support clients by giving them written information, talking over concerns, showing them the ECT suite and equipment seems to help. In the case of one very nervous client, we spoke to her about what would help and her husband was allowed to stay with her until she was under general anaesthetic. Electrodes were only attached after she was 'under' and her husband was taken to the recovery room so she saw him the minute she 'came to'. (He was not present during the procedure).

RESPONDENT 41
My knowledge is 'old' and much was set before modified ECT occurred or was just starting to be discussed.

RESPONDENT 42
Worked as an RN to assist with ECT at X Hospital approximately 20 years ago. "Patients" experienced much fear but I observed some positive effects. Little direct experience as a clinical psychologist but is used in [country town].

RESPONDENT 43
It is my understanding that at least some patients who have had ECT show significant cognitive impairment on neuropsychological assessment. Although I've only assessed one such person myself.

RESPONDENT 44
No experience whatsoever with ECT.

RESPONDENT 45
Clients with this background appear to have had a variety of experiences and outcomes as a result of this procedure, but none in my experience where the outcome was successful in a long-term time frame.

RESPONDENT 46
Some clients experience a sense of shame at memory loss and a sense of perpetual disorientation surrounding the time of treatment. Other clients have experienced ECT as part of a humiliating experience on a psychiatric ward, requiring the working through of issues pertaining to powerlessness. However it is my clinical experience that few clients who receive ECT require this kind of assistance, and most adjust without specific psychological intervention above that given by nursing staff.

RESPONDENT 47
There is no doubt that ECT helps some people but the mechanism by which it does this is brain injury and probably extinction of painful memories – a high price to pay. If this is a critical investigation into this medical procedure of more medieval times: good luck!! An afterthought – the knowledge we have about ECT appears to depend a lot on the type of articles available via e.g. the internet, unfortunately the most published articles are those with positive results funded by parties not impartial and with interests in medical equipment etc.

RESPONDENT 48
Minimal exposure to people who have had ECT but one client has suffered major trauma after ECT (after the war), along with physical injury when he convulsed off the bed during ECT in the 1940s and fractured his spine.

RESPONDENT 49
In my limited experience patients were confused and disoriented after modified ECT. Its beneficial (?) effects did not seem to last. People who had received multiple courses of ECT appeared to lose emotional content to their life.

RESPONDENT 50
In the 1960s I worked in a large institution for mentally retarded people (overseas). ECT was used regularly and indiscriminately by the psychiatric team. I viewed it as a control mechanism and I believe it often bordered on torture. I saw children reduced to a catatonic state by repeated use. I don't believe there is yet as much good evidence-based justification for its efficacy in depression and schizophrenia.

RESPONDENT 51
Anxiety may increase.

RESPONDENT 52
I have had only one client who underwent ECT. She was a psychiatric nurse and did not fear the procedure. She needed several courses of treatment in a fairly short space of time. Her concerns were more about her ongoing severe depression, rather than the ECT. Support was required for dealing with the symptoms of depression, and her feelings of shame relating to (i) having become depressed, and (ii) not responding to treatment.

RESPONDENT 53
The main issue for me as a clinical psychologist is how to remain part of a health system that I regard as engaging in unethical and scientifically dubious and harmful practices such as ECT and how to support clients informed decision-making process given the extreme pressure on them to accept ECT. Also how to have a rational discussion with psychiatry staff who usually justify ECT on the basis that if heroically rescued a person from death – they usually have experienced 1-2 exceptionally "successful" cases and justify using it on this basis – despite evidence from literature and other clients that it is essentially a bad idea! Finally, the complete lack of consideration of the psychological impact of ECT. For example, forcing it on someone who developed depression following a violent assault – the consequences of forced a feared and invasive treatment onto someone already struggling with issues of vulnerability to attack, predictability, control etc .... AAGH! I managed to stop that one but it is terrifying that there seems to be no requirement on psychiatrists to consider psychological issues when inflicting ECT on people.

RESPONDENT 54
Much of my "fence sitting" above is related to the questions i.e. in some circumstances would agree and in some disagree.

RESPONDENT 55
My concern is that ECT is used on clients who have not yet exhausted other therapy options and, in some cases, have not ever accessed psychological interventions. Given the memory issues and other side effects (one anecdotal report of epilepsy, and subsequent loss of driver's license following ECT). I would expect ECT to be used only as a treatment of last resort. I have seen clients who underwent ECT who did not know of alternative psychological treatment options or had previously had an unpleasant experience with a psychologist (e.g. being accused of malingering because the client was not improving with the only treatment approach that psychologist used).

RESPONDENT 56
When working in psychiatric hospital and departments. It is a rather general questionnaire: "depression" has a range of types and only endogenous depression of a pernicious kind would indicate ECT.

RESPONDENT 57
Like, I suspect, many clinical psychologists, I was sceptical initially about ECT. But when used appropriately (that is with those patients the evidence indicates it on balance is effective) then it clearly has a place as one of a range of treatment. The key question is "for whom is (modified) ECT most appropriate"?

RESPONDENT 58
Minimal direct experience. Responded to middle column when did not have information to form an opinion (agree/disagree).

RESPONDENT 59
ECT has different meaning, conscious and unconscious to different patients. This meaning needs to be explored with patient e.g. ECT as punishment vs panacea.

RESPONDENT 60
I have only worked with clients who had had ECT prior to my involvement with them (sometimes many years ago). Of the four such clients, only one reported that she found it helpful. I have never had any direct or formal education regarding ECT and my knowledge is based on verbal information provided by clinical supervisors and psychiatrists I have questioned. I have found many conflicting opinions/reports regarding the empirical basis for use of ECT.

RESPONDENT 61
ECT has been performed when antidepressants have not been effective however clients have reported that psycho/social issues that have caused the depression initially have never been dealt with at the psycho/social level. That is, antidepressants were prescribed in the first instance without the option of therapy/counselling being offered or sought.

RESPONDENT 62
I found the questionnaire on knowledge difficult to answer – mainly because I consider knowledge to be about yes/no/unsure and not about strength of agreement! Attitudes, yes.

RESPONDENT 63
Information about procedure itself. Reason for use. What might expect afterwards.

RESPONDENT 64
Only had limited experience with clients who've undergone ECT, they reported distress, memory impairment, and confusion post-ECT and were concerned re longer term effects on cognitive function. They saw it as last resort when their depression resistant other treatments.

(1) I have a particular concern re the use of ECT with clients under 18 years. The issue of informed consent is at the heart of this – and ethical responsibility and duty of care. (2) The stats show that 50-80% of mental health clients have a history of childhood sexual abuse. "ECT clients" I have worked with describe poor information provision, infantilization by psychiatrists together with adoption of "expert" and patronizing roles. This seems to repeat in CSA clients the trauma of helplessness in the face of abuse "adults" – the stats quoted raise serious issues re constraints and procedures for use of ECT.

RESPONDENT 65
Following a masters degree thesis by X I believe the procedure for ECT in Western Australia were modified to unilateral ECT.

RESPONDENT 66
I found some of the questions regarding memory difficult to answer; to my understanding there can be short-term memory loss after ECT that usually lasts 2-3 months but can be permanent and is specific to the period during treatment.

RESPONDENT 67
Fear, dread confusion, memory loss were some of the effects. Note: these are effects, not side effects.
RESPONDENT 68
In my experience, ECT has been offered/carried out in a precipitous manner and not always seen as an intervention to be offered after other measures have failed. In a medically dominated system, ECT is a fast fix which does little to empower the individual without ongoing psychological therapies.

RESPONDENT 69
Noticed I really don't know much about ECT.

RESPONDENT 70
I have seen (one through observation and another was a client) apparently helped by ECT – schizophrenia (catatonic behaviour) and severe depression. I have also had one client who reported significant memory related problems following a course of ECT here in Perth. I have mixed feelings about ECT both professionally and personally. I think it might have a place for life-threatening depression only in a modified state.

RESPONDENT 71
Have only had two clients who have undergone modified ECT to treat major depression – one was a recurrent episode and one for first major depressive episode. In both cases the treatment had an immediate positive result. No trauma associated with the experience. Both were more accessible to psychological treatment afterwards. One was distressed at memory loss (of early childhood experiences) and she had more than one treatment and this was many years ago (>20). I am appalled at my ignorance!

RESPONDENT 72
I found some of the questions badly worded – the literature makes a distinction between short and long term memory effects. I've had patients for whom ECT has been miraculous following failure of many other interventions, and two for whom severe depression has been unrelenting despite ECT.

RESPONDENT 73
I have experienced widely varying responses to ECT from clients and their families – some very positive, some very negative. Memory disturbance/confusion has been a short term issue for a number and long term for some. Good luck with your research.

RESPONDENT 74
The procedure has been made safer over the years to improve its benefits to the client. Clients generally fear the procedure due to myths about the nature of the treatment. Knowledge about the treatment, the benefits and side effects can reduce fear.

RESPONDENT 75
My experience has varied due to individual difference. Some individuals appear to have ST memory loss while others have longer term. The majority of people I have seen who although have had ECT voluntarily and appear to have a reduction in depressive or psychotic depressive symptoms are still anxious about the procedure often citing memory loss as main concern. Also the lack of understanding as to why ECT may help increases anxiety.

PSYCHOLOGICAL SIDE EFFECTS OF ECT

- ... it can be misused or used in a way that leaves the client feelings distressed and traumatised by the experience. The latter then complicates treatment and can hamper any beneficial effects which might be gained from the ECT. I think the nature of ECT and its side effects makes it particularly prone to leaving clients feeling disempowered and "done to" rather than feeling like active participants and collaborators in their treatment. This needs to be addressed carefully in the treating team and therapeutic relationship to maximise the potential benefits. [No. 13]
- It seems from my experience that patients most likely to agree to ECT are often hopeless and passive in their cognition therefore in my opinion less competent to make decisions in their own best interests. ... The least favourable results have included no symptom relief, considerable memory loss and pervasive sense of disempowerment. [No. 17]
- Major issues of these clients "Have I been damaged long term?" "Is that why we have relationship problems?" [No. 21]
- ... psychological distress is subjective so ECT (like many things) is by nature always potentially distressful. [No. 35]
- "Patients" experienced much fear [No. 42]
- Some clients experience a sense of shame at memory loss and a sense of perpetual disorientation surrounding the time of treatment. Other clients have experienced ECT as part of a humiliating experience on a psychiatric ward, requiring the working through of issues pertaining to powerlessness. [No. 46]
- ... it is my clinical experience ... most adjust without specific psychological intervention above that given by nursing staff. [No. 46]
- In my limited experience patients were confused and disoriented after modified ECT. ... People who had received multiple courses of ECT appeared to lose emotional content to their life. [No. 49]
- I saw children reduced to a catatonic state by repeated use [No. 50]
- Anxiety may increase. [No. 51]
- I have had only one client who underwent ECT. She was a psychiatric nurse and did not fear the procedure. She needed several courses of treatment in a fairly short space of time. Her concerns were more about her ongoing severe depression, rather than the ECT. Support was required for dealing with the symptoms of depression, and her feelings of shame relating to (i) having become depressed, and (ii) not responding to treatment. [No. 52]
- Finally, the complete lack of consideration of the psychological impact of ECT. For example, forcing it on someone who developed depression following a violent assault – the consequences of forced a feared and invasive treatment onto someone already struggling with issues of vulnerability to attack, predictability, control etc .... AAGH! I managed to stop that one but it is terrifying that there seems to be no requirement on psychiatrists to consider psychological issues when inflicting ECT on people. [No. 53]
- ECT has different meaning, conscious and unconscious to different patients. This meaning needs to be explored with patient e.g. ECT as punishment vs panacea. [No. 59]
- ... they reported distress, ... "ECT clients" I have worked with describe poor information provision, infantilization by psychiatrists together with adoption of "expert" and patronizing roles. This seems to repeat in CSA clients the trauma

of helplessness in the face of abuse "adults" – the stats quoted raise serious issues re constraints and procedures for use of ECT [No. 64]

- Fear, dread confusion, memory loss were some of the effects. Note: these are effects, not side effects. [No. 67]
- ... the treatment had an immediate positive result. No trauma associated with the experience. Both were more accessible to psychological treatment afterwards. [No. 71]
- Clients generally fear the procedure due to myths about the nature of the treatment. Knowledge about the treatment, the benefits and side effects can reduce fear. [No. 74]
- The majority of people I have seen who although have had ECT voluntarily and appear to have a reduction in depressive or psychotic depressive symptoms are still anxious about the procedure often citing memory loss as main concern. Also the lack of understanding as to why ECT may help increases anxiety. [No. 75]

COGNITIVE SIDE EFFECTS OF ECT

- ... I have seen many clients with memory loss following ECT ... [No. 7]
- Have only seen two clients who have undergone ECT. Both reported significant, long-lasting memory problems which they attributed to their ECT treatment. [No. 14]
- The best results I have seen with this group are short-term relief from some depressive symptoms, however, accompanied by memory loss. [No. 17]
- Regarding memory loss, this is permanent retrograde amnesia but generally involves hours to days prior to treatment. [No. 26]
- . Often clients wanted to use it as "blocking out trauma/abuse memories" for selective memory loss, which did not occur and they were often disappointed about that not occurring. Most did recover in 1-3 days. [No. 27]
- It is my understanding that at least some patients who have had ECT show significant cognitive impairment on neuropsychological assessment. [No. 43]
- Some clients experience a sense of shame at memory loss and a sense of perpetual disorientation surrounding the time of treatment [No. 46]
- Only had limited experience with clients who've undergone ECT, they reported distress, memory impairment, and confusion post-ECT and were concerned re longer term effects on cognitive function. [No. 64]
- Fear, dread confusion, memory loss were some of the effects. Note: these are effects, not side effects. [No. 67]
- I have also had one client who reported significant memory related problems following a course of ECT here in Perth. [No. 70]
- I have experienced widely varying responses to ECT from clients and their families – some very positive, some very negative. Memory disturbance/confusion has been a short term issue for a number and long term for some. [No. 73]
- My experience has varied due to individual difference. Some individuals appear to have ST memory loss while others have longer term. The majority of people I have seen who although have had ECT voluntarily and appear to have a reduction in depressive or psychotic depressive symptoms are still anxious about the procedure often citing memory loss as main concern. [No. 75]

- My only reservation about the procedure is that it is given (according to clients) as the first option and sometimes the only option. There seems to be a number of psychiatrists who have never heard of psychotherapy. [No. 6]
- ... I need to tell you the amount of ECT given to patients (to so many patients) was shocking. In my view so many patients received ECT that I think was not warranted. Psychotherapy in itself would have cured many of these patients. [Referring to overseas experience]. If ECT is given the patient should receive PSYCHOTHERAPY by a clinical psychologist. [No. 10]
- ECT under specific conditions for example extreme depression or certain forms of schizophrenia after all other treatment has been tried, can be beneficial. As a last resort, can be successful. [No. 10]
- . In the 1970s inpatients had it like having a cup of coffee – routine. [No. 15]
- Some psychiatrists think ECT is the only appropriate intervention for some people. [No. 16]
- My concern is that some psychiatrists in WA seem to be "trigger happy". Some have the reputation of using ECT as their preferred mode of treatment. [No. 18]
- I have seen a number of clients in mental health clinics over the past five years in which ECT has been treatment of choice for "melancholic" depression [No. 32]
- Used selectively and skilfully ECT is useful. Used as a blanket treatment it is highly problematic. [No. 39]
- Consultant psychiatrists I work with only use it a very few times/year (less than 5x) in cases where all reasonable alternatives have been tried and when it is described as treatment of choice in research literature e.g. psychotic depression, post-partum psychosis and "treatment resistant depression" when patient is highly at risk. [No. 40]
- ECT was used regularly and indiscriminately by the psychiatric team. [No. 50]
- ... how to support clients informed decision-making process given the extreme pressure on them to accept ECT. [No. 53].
- My concern is that ECT is used on clients who have not yet exhausted other therapy options and, in some cases, have not ever accessed psychological interventions. [No. 55]
- I have seen clients who underwent ECT who did not know of alternative psychological treatment options or had previously had an unpleasant experience with a psychologist (e.g. being accused of malingering because the client was not improving with the only treatment approach that psychologist used). [No. 55]
- ... when used appropriately (that is with those patients the evidence indicates it on balance is effective) then it clearly has a place as one of a range of treatment. The key question is "for whom is (modified) ECT most appropriate"? [No. 57]
- ECT has been performed when antidepressants have not been effective however clients have reported that psycho/social issues that have caused the depression initially have never been dealt with at the psycho/social level. That is, antidepressants were prescribed in the first instance without the option of therapy/counselling being offered or sought. [No. 61]
- In my experience, ECT has been offered/carried out in a precipitous manner and not always seen as an intervention to be offered after other measures have failed. In a medically dominated system, ECT is a fast fix which does little to empower the individual without ongoing psychological therapies. [No. 68]

- I've had patients for whom ECT has been miraculous following failure of many other interventions, and two for whom severe depression has been unrelenting despite ECT. [No. 72]

VIEWS ON ECT

- I have witnessed very severe effects following ECT. I am very strongly opposed to it and have advocated very strongly in several cases for patients not to undergo treatment. [No. 1]
- I would just like to add that I hope such research sheds light on the archaic and invasive, outdated nature of this procedure. I would hope that as psychologists that we are united in promoting more holistic approaches that serve to empower and enrich our clients' lives and do not disable them. [No. 2]
- I know it has value in treating depression in the elderly. [No. 8]
- ECT under specific conditions for example extreme depression or certain forms of schizophrenia after all other treatment has been tried, can be beneficial. As a last resort, can be successful. [No. 10]
- Like any treatment, I think it can be used sensitively and constructively and effectively or it can be misused or used in a way that leaves the client feelings distressed and traumatised by the experience. The latter then complicates treatment and can hamper any beneficial effects which might be gained from the ECT. [No. 13]
- I underwent a significant change in my attitude to ECT after seeing the (sometimes) astonishing changes it can bring about in severely depressed people. [No. 25]
- The treatment should be a last resort for the most seriously depressed. It is a fact of life in psychiatric practice, empirically supported and can be effective in some cases. These cases need good support from a treatment team. [No. 31]
- With severe depression, not helped by medication, ECT (modified) has a place in treatment. But patients need a great deal of reassurance and support. [No. 36]
- Used selectively and skilfully ECT is useful. Used as a blanket treatment it is highly problematic. [No. 39]
- It appears to have worked very rapidly in all cases I have seen. [No. 40]
- "Patients" experienced much fear but I observed some positive effects. [No. 42]
- Clients with this background appear to have had a variety of experiences and outcomes as a result of this procedure, but none in my experience where the outcome was successful in a long-term time frame. [No. 44]
- There is no doubt that ECT helps some people but the mechanism by which it does this is brain injury and probably extinction of painful memories – a high price to pay. If this is a critical investigation into this medical procedure of more medieval times ...[No. 47]
- I would expect ECT to be used only as a treatment of last resort. [No. 55]
- It is a rather general questionnaire: "depression" has a range of types and only endogenous depression of a pernicious kind would indicate ECT. [No. 56]
- Like, I suspect, many clinical psychologists, I was sceptical initially about ECT. But when used appropriately (that is with those patients the evidence indicates it on balance is effective) then it clearly has a place as one of a range of treatment. The key question is "for whom is (modified) ECT most appropriate"? [No. 57]
- . I have mixed feelings about ECT both professionally and personally. I think it might have a place for life-threatening depression only in a modified state. [No. 70]

- I've had patients for whom ECT has been miraculous following failure of many other interventions, and two for whom severe depression has been unrelenting despite ECT. [No. 72]
- The procedure has been made safer over the years to improve its benefits to the client. [No. 74]
- I am a strong believer in mind/body interactions and I think such a "gross" intervention would be very counterproductive [No. 16]
- ... it is an invasive treatment. [No. 18]
- Sorry, I have very little about this procedure, which I have seen and looks hideous! [No. 23]
- Am strongly opposed to ECT when far better, more gentle treatments for depression exist. [No. 29]
- I viewed it as a control mechanism and I believe it often bordered on torture. [No. 50]
- I have a particular concern re the use of ECT with clients under 18 years. The issue of informed consent is at the heart of this – and ethical responsibility and duty of care. [No. 64]
- In a medically dominated system, ECT is a fast fix which does little to empower the individual without ongoing psychological therapies. [No. 68]

LACK OF KNOWLEDGE

- I know very little about ECT. My main work is with youth so ECT is not used as a form of treatment for them. [2]
- Have had absolutely no experience or exposure so answers are simply from very little knowledge in the area. [5]
- You've highlighted that I really know very little about ECT, mainly because I don't work with clientele who have had ECT. [No. 8]
- I am not familiar with current usage as I have worked for 10 years+ in business environments. [No. 15]
- I have not worked in a psychiatric setting for several years and am uncertain about recent "modifications" to the procedure. [No. 16]
- My immediate experience working within a setting where ECT is regularly used is nearly 20 years ago. [No. 20]
- It is not a procedure that is in common usage for any of my client group (intellectual disability). [No. 22]
- Sorry, I have very little about this procedure, which I have seen and looks hideous! [No. 23]
- Literature does support modified ECT with severe depression. [No. 27]
- Apologies for limited knowledge in this area. I work in a private practice and would refer severe psychiatric cases on where they have more global and available support. [No. 30]
- It is a fact of life in psychiatric practice, empirically supported and can be effective in some cases ... [No. 31]
- Outside of an inpatient psychiatric setting my professional exposure/training in ECT has been limited. Mostly information informally gained by discussion with colleagues and psychiatrists over several years. [No. 34]
- With severe depression, not helped by medication, ECT (modified) has a place in treatment. [No. 36]
- My work is with parents some of whom have mental health problems. However, I do not know if they have had ECT or not. [No. 37]

- My knowledge is 'old' and much was set before modified ECT occurred or was just starting to be discussed. [No. 41]
- Worked as an RN to assist with ECT at X Hospital approximately 20 years ago. [No. 42]
- No experience whatsoever with ECT. [No. 44]
- Minimal exposure to people who have had ECT [No. 48]
- I am appalled at my ignorance! [No. 71]
- This contact was too long ago. Updated info appears easily accessible if you seek it actively. [No. 4]
- I'm sorry – but I can't generalise to rights and wrongs. Assessing a patient's suitability (or for that matter reasons for good or poor results) is a matter for careful chemical appraisal. What may be the 'right' treatment for one patient is contraindicated in another. [No. 19]
- Based on the current use of ECT, with severe recurrent depression, I believe it would be useful to better understand the mechanisms associated with change and the rationale provided for its use with clients. [No. 28]
- ... the knowledge we have about ECT appears to depend a lot on the type of articles available via e.g. the internet, unfortunately the most published articles are those with positive results funded by parties not impartial and with interests in medical equipment etc. [No. 47]
- I know it has value in treating depression in the elderly. [No. 8]
- I know very little about ECT. My main work is with youth so ECT is not used as a form of treatment for them. (4)
- Have had absolutely no experience or exposure so answers are simply from very little knowledge in the area.
- Regarding memory loss, this is permanent retrograde amnesia but generally involves hours to days prior to treatment.
- This contact was too long ago. Updated info appears easily accessible if you seek it actively.
- You've highlighted that I really know very little about ECT, mainly because I don't work with clientele who have had ECT. I know it has value in treating depression in the elderly. Hence many of my responses are in the middle because I just don't know!
- My immediate experience working within a setting where ECT is regularly used is nearly 20 years ago.
- My work is with parents some of whom have mental health problems. However, I do not know if they have had ECT or not.
- Following a masters degree thesis by X I believe the procedure for ECT in Western Australia were modified to unilateral ECT.
- The procedure has been made safer over the years to improve its benefits to the client. Clients generally fear the procedure due to myths about the nature of the treatment. Knowledge about the treatment, the benefits and side effects can reduce fear.
- Noticed I really don't know much about ECT.