ElEctroconvulsivE thErapy usE among DEprEssivE inpatiEnts: position statement

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Abstract

**Introduction:** Major Depressive Disorder is one of the most common mental health problems around the world; while Electroconvulsive Therapy is one of the most common methods for treating the disorder; it has a correlated effect over patients with depression.

**Purpose:** The purpose of this paper is to provide a position statement by the current author about using Electroconvulsive Therapy (ECT) treatment modalities among major depressive patients, especially those who are unresponsive to psychotropic drugs and psychotherapies.

**Methods:** Search strategies included database of Pub Med, Google Scholar, and American Psychiatric Association; they provided many studies about the current topic using some words such as Depression, Electroconvulsive Therapy, Unresponsive, Benefits and Risks.

**Results:** The current (as position statement) author supports the use of Electroconvulsive Therapy among major depressive patients especially those who are treatment resistant to other treatment modalities to enhance psychiatric symptoms and illness relief.

**Conclusion:** Electroconvulsive therapy is considered an effective treatment modality of patients with major depression especially with severe cases and unresponsive to other treatment modalities. Although it has side effects such as being as life threatening for very strict cases, that can be prevented by holistic medical assessment and care.

**Introduction**

Mental health problems were international challenges that have a significant contribution in illness burden over the entire world (Blake, 2012). Major Depressive Disorder (MDD) was one of the common health problems and it was estimated to affect 121 million adults worldwide (World Health Organization, 2012). However, Electroconvulsive Therapy, ECT, was one of the most common methods for treating major depression safely and effectively (Keltner & Boschini, 2009). American Nurses Association, APA, (2014) defined the position statement as an explanation, a justification or a recommendation for a course of action that reflects the author’s stance according to literature review regarding the concern.

MDD, can be defined as a period of at least two weeks during which there is either depressed mood or the loss of interest or pleasure in nearly all activities (APA, 2000). MDD was associated with significant morbidity, mortality, and disability that burdens the individual and his/ her family, and contributes to impaired cognitive skills and deterioration of the individual life aspects (Blake, 2012; Nahas & Sheikh, 2011). Symptoms of depression included feeling of hopelessness and helplessness, loss of energy, anhedonia, agitation, fatigue, withdrawn, weight loss or gain, fatigue, and inappropriate thinking (Townsend, 2011).

Treatment modalities of this disorder were stated on severity which was mild, moderate and severe, that included psychotherapy, psychopharmacology and ECT for severe phases (Tusaie & Fitzpatrick, 2013). Electroconvulsive Therapy, defined as the safe induction of a series of generalized epileptic seizures for therapeutic purposes, using brief pulse stimulation techniques under anesthesia and muscle paralysis (Baghai & Möller, 2008).

The purpose of this paper is to provide a position statement by the current author about using Electroconvulsive Therapy (ECT) treatment modalities among major depressive patients, especially those who are unresponsive to psychotropic drugs and psychotherapies.
The paper will be organized as Background about ECT with positive and negative issues, position statement of current author about ECT with suggested actions that are integrated with National Center for Mental Health, NCMH, of recommendation and possible solutions for ECT use, summary and conclusion and finally acknowledgment and references.

Background
The purpose of literature review is to identify proponent and opponent studies of ECT in terms of effectiveness, benefits and co-morbidity, side effects and contraindications and social concerns and cost effectiveness of ECT.

ECT is one of the oldest biological treatments for psychopathology. It was introduced as somatic therapy since 1938 (O’Reardon, Cristancho, Ryley, Patel & Haber, 2011). It was used in treating MDD and other psychiatric illness such as Schizophreniform disorder or schizoaffective disorder and mania (Tess& Smetana, 2009). ECT was used as first line therapy in major depression, bipolar depression, bipolar mania, positive schizophrenia, postpartum psychosis, various movement disorders and is immediately required in suicidal, catatonia and assaultive behaviors (Keltner& Boschini, 2009). Although it has different adverse events and risks which must not be ignored such as somatic pain, cognitive side effects and medical contraindications (Baghai& Möller, 2008).

Proponent Studies
Effectiveness. In a randomized control study, the remission rate of ECT users among unipolar and bipolar depression patients was more than 60% in comparison with drugs modalities group (Bailine et al., 2010). Depressive patients who are treatment-resistant on drugs and severe cases were well treated by ECT as evidenced by more than 24 studies with RCT and case reports (Little, 2009). There was evidence that bilateral electroconvulsive therapy improved symptoms more than unilateral therapy, and that high dose therapy was more effective than low dose therapy (Al-Harbi, 2012; Bailine et al., 2010; Little, 2009). Additionally, at experimental study of more than 900 participants of depressive patients that, showed response rate of ECT from eight to twelve sessions two to three times weekly, results were presented that a response rate of 81% especially among older adults, authors concluded that older patients, more severely ill patients, psychotically ill patients and patients without personality disorders had the highest responder rates on short term ECT (Nordenskjöld, Knorring & Engström, 2012).

Positively, on systematic chart review of a study with 42 participants who were diagnosed with MDD, response rate was 85.7% (36/42), and the study noted that ECT as longterm therapy was recommended for older ages than others and among those who complained of treatment resistant depression Furthermore the procedure assisted in decreasing relapse for recurrent relapsed patients in addition to psychotropic drugs as Sertraline or Mirtazapine (Tokutsu et al., 2013). It is effective more rapidly than other psychotherapy agents especially for severe cases and resistant cases (Cusin & Dougherty, 2012) and with response rates as high as 95% for patients with MDD with psychotic features with recommended six to twelve sessions (Tirmizi, Raza, Trevino & Husain, 2012). Moreover, as a literature review study of more than 50 studies, continuous and maintenance ECT had valuable treatment modalities to prevent relapse and recurrence of mood disorders, especially MDD (Petrides, Tobias, Kellner & Rudorfer, 2011).

Benefits and co-morbidity. ECT had beneficence on treatment of co-morbidity of illness, which means co-occurrence of two or more disorders in a specified period (Tusaei& Fitzpatrick, 2013). On case report study of a woman complaining of anorexia nervosa and co-morbid severe major depressive disorder, was treated with ECT and developed a positive effect on the depressive symptoms and had some positive effect on weight gain (Poutanen, Huuhka & Perko, 2009). While another case report study of three cases co-occurred with Obsessive-Compulsive Disorder; the result showed that the patients’ depressive symptoms improved after the ECT procedures beside improvement of the condition of all three OCD patients OCD significantly (Liu et al., 2014). It provided effective removal of psychomotor inhibition, appetite loss, and delusions for a case with fronto temporal dementia (Kobayashi, Inoue, Shioda & Kato, 2012). Additionally, ECT as maintenance therapy provided a safe and efficacious option in epileptic patients with major depressive disorder without increasing of seizure threshold (Kucia, Stepanczak & Tredzbor, 2009).

Regarding medical conditions, it was applicable to a case of older adult with aortic stenosis but with strict observation and follow up of multidisciplinary team (O’Reardon et al., 2011). Moreover, post stroke depression was treated in some cases by ECT with efficient outcome but with holistic monitoring for avoiding unexpected outcomes (Lökk & Delbari, 2010). Furthermore, ECT was an effective, safe, and useful procedure in the treatment of catatonie youngsters as reported in 59 patients (Consoli et al., 2010).

Social concerns and cost effectiveness. Socially, ECT was more acceptable among treatment resistant cases and postpartum reports due to its short term and quick resolving of depressive symptoms (Keltner& Boschini, 2009). Costly, ECT was less expensive in comparison to new psychotropic agents such as Zolofit or Prozac due to their selectivity but its adverse effects required additional therapy (Eitan & Lerer, 2006; Zimovetz, Wolowacz, Classi & Birt, 2012). Moreover, other psychotherapy required more sessions and combinations with other psychotropic drugs for achieving benefits while ECT achieved it as monotherapy (Zimovetz et al., 2012).
According to the policy of NCMH (2011) for ECT use, they considered the ECT as somatic therapy that nursing staff supported and participated in providing electroconvulsive therapy, in addition to maintaining the patient’s safety and rights as critical to the somatic therapies; the patient’s medical record contained data on these treatments. So, the current author’s position statement will be shaped and adopted according to this policy and procedures.

Opponent Studies

Effectiveness. In contrast, among 28 participants in randomized control trials for a four week period, Isoflurane as anesthesia agent of 10 sessions had an antidepressant effect approaching ECT with less adverse neuro-cognitive effects in comparison to the ECT group with eight to twelve sessions. The last were complicated with decline of memory and daily activities in 90% (Weeks et al., 2013). Moreover, in a retrospective descriptive study of 27 participants chart review for three years under continuous treatment of ECT as mono-therapy, the re-hospitalization rate was 43% in the first 6 months and increased to 58% within two years due to relapse of symptoms (Nordenskjöld, Knorröng & Engström, 2011).

Additionally, a case report study, disagreed with electroconvulsive therapy because ineffective assessment and evaluation presented ECT induced mania as electrical effect of therapy which added more bulk in the treatment strategy (Saatcioglu & Guduk, 2009). Moreover, relapse rate was common after ECT in 50% within 6 months, which was treated effectively with antidepressants such as venlafaxine to prolong the remission period (Prudic et al., 2013). In addition, ECT adverse effects were uncontrollable in many patients, such as memory loss, seizure and severe headache (Nordenskjöld et al., 2011). Magnetic Seizure Therapy, MST, which induced seizure to brain regions with less voltage than ECT and less adverse effects for producing unpleasant seizure, additionally was more effective than ECT due to its locality and selectivity (Deng, Lisanby & Peterchev, 2011).

Side effects and contraindications. Most cases treated by ECT reported more than one side effect summarized as headache, nausea, vomiting, memory loss which can last for one month, scalp pain and in some cases fractures that added special concerns for considering ECT (Baghai & Möller, 2008).

Case report study of monozygotic twins who were treated with ECT reported prolonged apnea due to anesthesia procedure of ECT that increased suspicion about using ECT as effective therapy (Zavorotnyy & Zwanzger, 2011). Moreover, Electrocardiogram changes during ECT session indicated increasing pulmonary odema (Manne, Kasiry, Epperla & García-Montilla, 2012). On the other hand, pre ECT procedure required full physical and mental assessment due to its precautions on multiple cases as increasing intracranial pressure or tumor, myocardial infarction, heart valve abnormalities, severe liver diseases, severe pulmonary diseases, intra cerebral vascular malformations, osteoporosis, esophageal hernia and others (Baghai & Möller, 2008).

Social and cost effective. Socially, the current adverse effects and media roles, decreased adherence to this therapy with increasing contact with other therapies (Payne & Prudic, 2009). Moreover, health care providers decreased ECT use as therapy due to its full preparation to procedure and long follow up post treatment (Martin & Elworthy, 2013). Costly, post ECT care for treating complications in severe cases was more expensive than usual psychotropic medications with psychotherapy (Read & Bentall, 2010). Moreover, family psycho education as preventive measurement for relapse prevention was more cost effective than recurrent ECT sessions as presented in a randomized control trial (Shimodera et al., 2012).

Summary

ECT is considered as effective therapy for many psychiatric illnesses, especially MDD and treatment resistant depression; on the other hand it increases enhancement in co morbid situations such as OCD, anorexia and epilepsy. Moreover, it is safe for the different medical disorders such as aortic stenosis or stroke. Additionally ECT users are more adherent than others to its feasibility and short term sessions and cost effectiveness.

On other hand, the ECT doesn’t play an active role in preventing re-admissions and relapsing in different situations because it requires maintenance and follow up sessions to be useful therapy. Most common side effects are nausea, vomiting, headache, memory loss and localized pain and other side effects are due to special medical conditions. Moreover strict medical and physical assessment is required for avoiding unexpected outcomes.

Position Statement

The current author supports the use of Electroconvulsive Therapy among major depressive patients especially those who are treatment resistant to other treatment modalities to enhance psychiatric symptoms and illness relief. Moreover, it is strongly recommended for use among patients who have high suicidal, catatonic or assaultive behaviors. It must be used under systematic health care process. The current author recommends for the following practices:

- Nurses must prepare all equipment for ECT session considering first aid and septic considerations that include: oxygen supply, suction, face mask, items of monitor and electrocardiogram, cuff pressure and stethoscope, ECT items, normal saline alcohol swabs and items of anesthesia.
• Regarding session preparation:
  1- ECT requires physician order with pretreatment orders
  2- Patient must have a complete physical with all lab test results returned.
  3- The physician obtains the informed consent and the primary nurse needs to reinforce the information given the patient and family when questions arise.
  4- Patient is NPO at midnight the evening before a treatment. Prior to taking the patient to the treatment room, the nurse must check a patient for voiding and remove dentures, contact lenses, all jewellery and nail polish.
  5- Check the patient’s medical record is complete and including a signed permission; and gives the patient pretreatment medication as ordered.

• During session, primary nurse can stay with patient; nurse takes vital signs and monitors the ECG rhythm and the other one supports patient’s jaw and extremities.

• After session, vital signs and patient’s response must be monitored; return the patient to hospital room to recover with upside rails and feeding on full alert status; keep safe.

• The current author also recommends the following future directions:
  o Enhancing family and patient’s information about effectiveness and importance of ECT as somatic therapy.
  o Considering patient’s financial cover for assurance of complete sessions of ECT or other treatment modalities if possible.
  o Encourage decision makers and stockholders to establish national and international agencies about ECT use and benefits to enhance social perceptions.
  o Encourage authority holders to affect the media about ECT concerns to modify the negative social impression and stigma about ECT.
  o Articulating standardized application of ECT among psychiatric patients to assure appropriate use and achieve planned outcomes.
  o Activating the researchers’ role in this field to enhance practices and skills of ECT procedure and changing that according to evidence based outcomes.
  o Encouraging educational programs to enhance training and knowledge about ECT as therapy among nursing staff, physicians and other health care providers to ensure high quality of care in this field.
  o Empowering the importance of interdisciplinary team as health care providers to assure increasing benefits and decreasing risks.

Summary and Conclusion
The purpose of this paper was to state a position about the using of ECT among MDD as somatic therapy. The current author supports the use of ECT as therapy for depressive patients especially those who are unresponsive to other modalities of treatment. It produces effective outcomes on decreasing relapses and enhancing of remission from disorders. It could be first line therapy in severe depressive cases with high lethality or catatonic cases and second line for those unresponsive to other psychotropic medications and psychotherapy.

Even though it has various side effects starting from localized pain ranging to memory loss and ending in death in some cases, it plays an active role in treating severe depressive episodes and co morbid disorders such as eating disorders, OCD, epilepsy and is safe on many medical conditions as stork, aortic stenosis and others. On other hand, high risk patients can be detected through holistic medical and physical assessment to avoid unpleasant outcomes, to achieve the major goal of psychiatric treatment, of health enhancement.

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References


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