



## PSYCHOLOGY AND ELECTROCONVULSIVE THERAPY (II): INTERESTED CONSENSUS LACKING IN EVIDENCE

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*Como continuación de la parte primera, el presente trabajo trata de comprender el uso del electroshock, una técnica cuya efectividad no ha sido inequívocamente demostrada. La falta de evidencia concluyente ha generado consensos que no proceden de un genuino debate interdisciplinario. El concepto de inhibición terapéutica carece de fundamento. El electroshock reduce el sentido de eficacia personal y autonomía que caracteriza un desenvolvimiento sano, e introduce un mensaje implícito de causalidad en términos de mal funcionamiento cerebral que resulta estigmatizante. No existen en España leyes específicas que regulen este procedimiento. La calidad de la información facilitada al paciente es baja y podría derivar en responsabilidad del profesional. Por su excepcionalidad, el electroshock no debería considerarse un elemento más de la cartera de servicios. Los profesionales pueden ejercer su objeción de conciencia por razones éticas y científicas. Una perspectiva interdisciplinaria consiste en reivindicar alternativas de tratamiento potencialmente menos lesivas.*  
**Palabras clave:** Terapia electroconvulsiva, Salud Mental, Aceptación de la atención de salud, Medicina basada en la evidencia, legislación.

This paper and its first part attempt to comprehend the use of electroshock, a technique whose effectiveness has not been unequivocally demonstrated. The lack of conclusive evidence has generated consensus, but it does not come from a genuine interdisciplinary debate. The concept of therapeutic inhibition is unfounded. Electroshock reduces the sense of personal efficacy and autonomy that characterizes healthy functioning and introduces an implicit stigmatizing message of causality in terms of brain malfunction. There are no specific laws in Spain that regulate this procedure. The quality of the information provided to the patient is poor and could lead to professional liability. Due to its exceptional nature, electroshock should not be considered as just another therapy like any other. Professionals can exercise conscientious objection for ethical and scientific reasons. An interdisciplinary perspective would be to call for potentially less harmful treatment alternatives.

**Key words:** Electroconvulsive Therapy, Mental Health, Patient acceptance of health care, Evidence-based medicine, Legislation.

**T**he aim of this work and its first part is to provide arguments that allow a critical positioning with respect to electroconvulsive therapy (ECT). After reviewing the conceptual and historical aspects, this second part explores the available scientific evidence and the clinical implications of electroshock, including the view of mental disorders that it may create. Finally, a number of legal points are presented for consideration.

### SCIENTIFIC ARGUMENTS FOR IRREVERENT PROFESSIONALS

The controversy over ECT is not restricted to the scientific debate, and a special interweaving of science, ethics, and history can be observed. Thus, it is surprising that a medical procedure that is so delicate from an ethical point of view has found in research ethics an ally that today prevents the science-based refutation of an effectiveness that has been

overestimated historically (Ross, 2006).

Based on eight decades of history, the main argument of the ECT supporters is efficacy. From a scientific point of view, the best experiments on effectiveness were conducted before ethical guidelines were introduced for human research. Randomized clinical trials were used that applied simulated ECT (anesthesia without electroshock) to different control groups. The *American Psychiatric Association* (APA, 2001) recognized that in none of the five studies of this design prior to 1980 were differences found between real and simulated ECT. By 1986, a total of 10 studies had been conducted. None demonstrated superiority over placebo beyond treatment, and five did not even find a benefit during administration (Read & Arnold, 2017). In summary, ECT has not demonstrated utility beyond treatment in a single controlled trial (Read, Cunliffe, Jauhar & McLoughlin, 2019).

The risk of suicide, an argument often introduced to justify the use of ECT, is not reduced either (Avery & Winokur, 1976; Breggin, 1998; Read & Bentall, 2010; Read et al., 2019) and may even be increased in the short term (Munk-Olsen, Laursen, Videbech, Mortensen, & Rosenbergh, 2007).

Over the past 30 years, no controlled trials of ECT have

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been conducted in Europe or the United States for ethical reasons. Thus, as methodological rigor has been neglected, better results have been reported in the studies, which are constantly increasing in number. It is not surprising that in order to normalize ECT, some authors have opted to use the most up-to-date information possible (Sanz-Fuentenebro, 2018), since the classic, methodologically rigorous studies are unfavorable. It can be seen that the benefits of ECT are only temporary by observing that some psychiatrists administer it chronically (Sterling, 2000). However, the clinical impression may be different; either as a result of direct experience, training, or an interaction between the two. According to the Spanish Society of Biological Psychiatry (SEPB, 2018), many patients have had their illness improve with ECT, or it has even remitted rapidly. ECT can be effective in certain cases and can produce dramatic changes (Vallejo, 2011). However, even if there were truth in its efficacy, which according to Read and Arnold (2017) the evidence has negated, its use would not be scientifically supported. Bleeding was also effective for mania to treat the brain congestion that caused it according to Esquirol, since this author did not take into account the behavioral weakening produced by anemia and hypovolemia. In this case, the efficacy of the procedure erroneously supported its consideration as a curative treatment for mania (López & Costa, 2012). Many clinicians have described how an injury with pain, or the onset of a somatic illness, can improve psychotic symptoms and the adjustment to reality in schizophrenia, although it is not reasonable to manipulate these variables as if they were treatments.

The Spanish Consensus on ECT deserves an in-depth commentary. To begin with, if there is anything clear in Spain about ECT, it is the lack of consensus. This is proven by the highly variable application rates per 10,000 inhabitants among the autonomous communities (0.00-1.39) and provinces (0.00-3.90) (Sanz-Fuentenebro et al., 2017). This situation also occurs at a global level, with rates ranging from 0.11 to 5.1 per 10,000 (Leiknes, Jarosh-von, & Høie, 2012). This variability reveals a lack of consensus on the efficacy and safety of ECT (UK ECT Review Group, 2003). While some centers do not even offer it, in others 20% of patients may be receiving it at any time (Breggin, 1998). Some psychiatrists do not recommend it even as a last resort. Others quickly resort to it as a treatment of choice without trialing alternatives. According to the *National Institute of Care and Excellence* guidelines, it is only legitimate to use ECT when other treatments have failed (NICE, 2009, 2017).

From a scientific point of view, the very existence of consensus demonstrates the absence of conclusive evidence, because where science reaches, consensus is not necessary. To be irreverent in the face of consensus is a necessary attitude for scientific development. Science does not advance based on consensus; even less so when it comes from peer groups. Rather than a consensus, the document of the SEPB (2018), is an agglutination of proposals shared by supporters of the unrestricted use of an “underused” and “stigmatized” technique. This consensus was assured from the outset

because all its agents are advocates of ECT. They would have little to debate as critical points of view are not represented. Consensus is necessary when there is discussion between different positions. When the position is shared in advance, it is more appropriate to speak of a manifesto. The Spanish Consensus cannot be taken as scientific evidence in order to avoid a controversy that deserves interdisciplinary debate. We do not attribute spurious intentions to its signatories, for example due to conflicts of interest, but neither can we assume that they are insensitive to their own scientific preconceptions, biomedical culture, and environment. It is enough to review the previous works of some authors to appreciate their doctrine, hence our preference for the term “manifesto”.

### SCIENTIFIC EVIDENCE IN BULK

A figure often used as a weighty argument is the 509 bibliographical references in the Spanish Consensus. This figure can be misleading. The entire literature on ECT in recent decades can be divided into two groups. The first group, which is more numerous, refers to the safety and efficacy of the procedure at the expense of neglecting methodological principles (Ross, 2006) and exploiting short-term data (weeks). This material enables the creation of promotional diptychs and manifestos (false consensus). The second group reports a lack of effectiveness beyond the treatment, as well as real or potential risks. It must not be understood as an interdisciplinary conflict because psychologists, psychiatrists, and other professionals are represented in both groups. The studies in the first group generally come from authors who declare conflicts of interest or from projects funded by industry or institutions of biological psychiatry. They rarely relate the implications of the lack of validity that comes with not having control groups, which they justify on ethical grounds. The second group includes the most methodologically rigorous studies. There are fewer studies in this group, but the evidence they provide on the lack of efficacy has the value of neutrality as well as validity. Many come from non-funded research whose authors have no conflict of interest. The quantitative difference between one group and the other does not lie in a greater proximity to the scientific truth, but in the very conditions under which the research is created. And if there is one thing that biological psychiatry is unrivalled in, it is the availability of resources. Furthermore, the publication bias in efficacy studies is well known. When the results are not favorable, the probability of publication is drastically reduced (Bentall, 2011). Manufacturers will never quote unfavorable studies in the instructions for their machines. This is an understandable bias for an interested party that has to look after its own commercial interests. In reality, it is almost impossible for manufacturers or prescribers to recognize the real risk of ECT, as they would be exposed to ethical-legal problems (Read, 2004).

The bibliography of the Spanish Consensus offers an extensive mass of references proclaiming the safety and efficacy of the procedure. Because of their disproportionate number it looks like “evidence in bulk”. A single conclusive study following the methodological proposal of Ross (2006) would suffice to dispense with the rest. Such a study does not



exist. Improvements limited to weeks are described. There is no evidence of long-term effectiveness, which is what is relevant. What the evidence does offer is little or no effectiveness beyond treatment (Breggin, 1998, 2010; Read & Bentall, 2010, Read & Arnold, 2017). One figure that shows its low usefulness is that more than 80% of patients undergoing ECT suffer a relapse despite also receiving psychotropic drugs (Bentall, 2011).

The placebo effect plays an important role in electroshock (Rassmusen, 2009). In fact, it is likely that no regular mental health treatment has a more potent placebo effect. The placebo effect is strengthened by the apparatus of the technique, which here includes a sophisticated machine, monitoring, venous catheterization, intravascular drugs, and several skilled professionals ritually arranged around a "sick" head, upon which they apply a "healing treatment" in reverential silence. As a ceremony, the procedure largely mimics an exorcism. In addition, the expectations for improvement of the practitioners convinced of its efficacy are projected onto patients and families. In a review of controlled studies, Crow and Johnstone (1986) found that both real and simulated ECT were associated with substantial improvements, although there was no difference between the two. The SEPB itself (2018, p.73) recognizes that patient and family expectations and satisfaction have a significant impact on the outcome of ECT. What is worrying, in terms of scientific rigor, is that it encourages this factor to be enhanced through deliberate action. This approach reveals a conflict between science and care. To preserve internal validity, a good scientist has methodological control as a priority, where patients' and families' expectations represent threats. However, for the clinician this strange variable is an ally to be enhanced. The risk is that a kind of "Charcot effect" will be incurred, when one observes what they themselves propagate without considering the self-confirmation bias (Pérez-Álvarez & García-Montes, 2007). The procedure that promotes consensus tends to obtain favorable results by itself, but at the cost of destroying the internal validity. This happens especially in the short term, because people are more likely to report positive attitudes about ECT soon after treatment rather than later (Smith, Vogler, Zarrouf, Sheaves, & Jesse, 2009).

With regard to safety, Weiner (1984) raised the need for research to clarify this issue and to be able to specify more rigorously the role of ECT in the future. There is now abundant evidence of damage. Memory dysfunction follows almost all treatments at least temporarily, and is marked and persistent in at least one in eight patients (Fosse & Read, 2013; Read, Harrop, Geekie, & Renton, 2017; Sackeim, Prudic, Fuller, Keilp, Lavori, & Olson, 2007), which its prescribers seem to be unaware of because they do not even properly assess this impairment (Sterling, 2000). Persistent mnemonic loss can range from weeks to years (Chakrabarti, Grover, & Rajagopal, 2010), and is permanent in 29% to 55% of cases (Rose, Wykes, Leese, Bindman, & Fleischman, 2003). For Breggin (2010), there is no doubt that ECT damages the brain, and it is unacceptable to assume that it is safe in

humans; the only possible controversy lies in the severity and persistence of the damage.

In any case, if the mechanisms of action are unknown (SEP, 2018), it can be deduced that not all the possible damages associated with the treatment are well established either. Ross (2006) has proposed a moratorium on the use of ECT until there is conclusive evidence, which is still lacking.

The Spanish Consensus itself implicitly recognizes cognitive damage by indicating that the option of two instead of three weekly sessions has less of an impact. It also states that unilateral stimulation, which is less effective, also produces less cognitive impairment and therefore bifrontotemporal application is more widely used "although at the cost of a greater risk of cognitive effects" (SEP, 2018, p.17). For its part, the *Grupo de trabajo de la Guía de Práctica Clínica de Manejo de la Depresión en el Adulto* [Working Group on Clinical Practice Guidelines for the Management of Depression in Adults] (2014, p.147), citing the NICE guide (2009), notes that "unilateral placement of electrodes in the dominant hemisphere produces greater damage than if these are placed in the non-dominant hemisphere". Another relevant variable is the charge, since the greater the charge, the greater the effect. The APA (2001) proposes using a charge between 2.5 and 6 times the threshold for unilateral location and between 1.5 and 2.5 for bilateral location. However, the advantage of lower cognitive impairment in unilateral application could disappear above 4 times the threshold. The question is, according to Sanz-Fuentenebro (2018, p.38), that "the spatial distribution and intensity of the electric field induced by the stimulation are largely conditioned by the position of the electrodes, which will have an impact—for better or worse—on different brain structures".

In summary, the use of ECT is not consistent with an evidence-based medical approach (Read & Arnold, 2017). A good scientist changes his or her beliefs based on the results of the research. Although biological psychiatry uses science as its discourse, supporters of ECT resist the research data, presenting an over-reliance on a medical model embraced by the industry (Read et al., 2017). Moreover, the language they use is not particularly rigorous or accurate as it exploits scientifically unsustainable terms such as "mental illness" (Lopez & Costa, 2012). When scientific hypotheses are maintained despite being unconfirmed for decades, it might be better to call them persistent scientific beliefs. Similarly, to speak of "whirlwinds of multilevel brain changes" to refer to the effects of ECT (SEP, 2018, p.93) is to talk about everything in order not to explain anything and reveals uneasiness and uncertainty. As Skinner would say, where science does not reach, the metaphor has its place.

### SOME LIMITATIONS AND EFFECTS OF BIOPSYCHIATRIC TREATMENTS

If there is one thing that all biopsychiatric treatments have in common, including electroshock, it is to seek the elimination of the symptoms. These treatments do not generate adaptive behaviors or improve psychosocial functioning by themselves.



Nor do they modify the circumstances surrounding the subject's behavior (such as poverty, discrimination, isolation). Successful medication for psychotic symptoms does not predict functional recovery, and social isolation and poor performance may persist (Paino, García, & Ordóñez, 2019). Furthermore, research has shown that biological explanations could be an obstacle to reducing the social stigma of mental disorders, and could even increase it by reinforcing the false belief of a faulty brain mechanism (Haslam, 2006; Johnson, Sathiyaseelan, Charles, Jeyaseelan, & Jacob, 2012; Lam, Salkovskis, & Warwick, 2005; Lysaker et al., 2012; Pérez-Álvarez, 2011; Read, Haslam, Sayce, & Davies, 2006). Treatments accompany implicit messages of causality (Read et al., 2017) that may induce pessimism about recovery by reducing the subjects' effort to improve their own situation (Kvaale, Haslam, & Gottdiener, 2013). When its methods aimed at eliminating symptoms fail, biopsychiatry does not offer alternatives, such as teaching the patient to relate to their own psychopathological experiences in another way to make them less disturbing, which is what various psychotherapeutic approaches do. When the evolution is not good, what it offers is more of the same: more medication, introducing electroshock, more electroshock, or a combination of both.

#### A FEW SHOCKS AND PROBLEM SOLVED

Electroshock leaves out the understanding of behavior in a biographical context, the study of its genesis and meaning, and the possible adaptive function that problematic behavior might represent. As Bentall (2011, p. 63) points out, "The meaning of the patient's symptoms, and the context in which they have occurred, are therefore seen as irrelevant, and efforts made by the patient to discuss them, and to have his story heard, are often discouraged". Electroshock has little to do with the possibility of recognizing the other and opening to interpersonal dialogue, since in the end the meaning of the behavior is in the other, not at the level of neurotransmitters or neuronal electrical connectivity (Valverde & Inchauspe, 2017).

Biological assumptions hinder a phenomenological understanding of what happens to the subject because they disregard the life experiences that make it possible. The model diverges from an attitude of understanding the patient's experience. A biological psychiatrist may say that he understands the patient, but his way of understanding the patient is to tell him that he has a disease whose symptoms can be improved with a treatment that acts on the brain called ECT, even though the biological mechanisms responsible for the change are unknown. Seeking prestige, he could say, paraphrasing the SEPBB (2018, p. 93), that it produces "a whirlwind of multilevel brain changes (neurochemical, hormonal, vascular, genomolecular, metabolic, inflammatory, etc.), some of which will be responsible for improvement." What is relevant is not the understanding or dialogue through the clinical relationship, the interest in the biography, the environment, or the interpersonal relations, but rather to give the shocks correctly according to the protocol.

Time has proved Andreasen (1985) right, who believed that

the psychiatry of the future would use much shorter treatments where a few minutes would be enough for doctors and patients to talk about the symptoms and how they affect them.

#### LEGISLATION

In Spain there are no special laws on ECT, and general regulations apply. State Law 44/2003, of 21 November, on the organization of the health professions (LOPS), refers to the duty of professionals to respect the participation of patients in the decision-making process that affects them, providing sufficient and adequate information so that they can exercise their right to consent. In addition, Basic Law 41/2002 includes consent by representation, which may be particularly worrying in the case of ECT since family members have a more positive view and experience of the technique than patients (SEPBB, 2018). When the user is not capable of making decisions at the discretion of the responsible physician, consent is given by related persons, and the sole signature of the family member may be accepted when it is impossible to obtain that of the patient, or when the clinical situation advises it (SEPBB, 2018). If there are no relations or they do not wish to sign, it is recommended that judicial authorization be requested to perform ECT, although "in some centers it is considered that judicial authorization for involuntary admission already covers this possibility" (SEPBB, 2018, p.67). Law 1/2000 on Civil Procedure states that judicial authorization is required for involuntary admission for reasons of mental disorder, but this law only speaks of involuntary admission, so its extrapolation to ECT depends on judicial discretion. In any case, treatments administered against the patient's will can be particularly traumatic and are of a coercive nature that may clash with a human rights-based approach compatible with the United Nations Convention on the Rights of Persons with Disabilities.

If the patient suffers any type of damage or harm from the treatment, Law 41/2002 includes the possibility of having received deficient information, and it is up to the patient to prove the damage and to the doctor to prove the quality of the information provided. The doctor and the health center could be found liable if the patient has been deprived of clarifying information. Thus, the poor quality of the information provided is relevant, especially with regard to mnemonic problems (Robertson & Pryor, 2006) or the profound impact they have on the patients' living experience (Seniuk, 2018).

The law protects the user from possible abuse, and this is uncomfortable for biological psychiatry. The APA proclaimed that civil rights and liberties had been introduced into the field of psychiatric treatment, imbuing it with legal requirements that "at best complicate good clinical practice and at worst prevent it from taking place" (APA, 1978, p.132).

Refraining from participating in ECT is an action based on ethical and scientific reasons, and the professional may exercise his/her conscientious objection under the protection of a fundamental right set out in the Spanish Constitution and he/she may not be discriminated against for this reason.

No doubt psychiatrists prescribe ECT with the best of



intentions. Of course. They are convinced that it is a legitimate, effective, safe procedure, and they have a mountain of documents to support it. However, no psychiatrist can guarantee long-term therapeutic results or an absence of harm. We propose that biologically oriented psychiatrists opt for a restrictive indication of ECT in accordance with the NICE recommendations, conditioning its use to a last therapeutic scenario defined by the failure of other potentially less harmful and stigmatizing options. In any case, for the decision to receive ECT to be free and autonomous, a careful, detailed, and direct explanation of the technique and its effects, both desired and adverse, should be provided, including the possibility of a change in the living experience.

### CONCLUSIONS

The effectiveness of ECT is inversely related to the methodological quality of the available scientific evidence, and it has been generally overestimated in the psychiatric literature. This has led to an imbalance between professional beliefs and research results. If, as Schneider argued, psychiatry is a profession of faith, the electroconvulsive therapist needs it the most.

The language and paraphernalia of electroshock reinforce the idea of a broken brain mechanism that has never been demonstrated. Claiming that ECT corrects an unknown brain imbalance is scientifically untenable. Furthermore, physical-biological treatments reduce the sense of personal efficacy and autonomy that characterize healthy functioning. If an improvement occurs, the possibility of the subject becoming empowered by attributing the improvement to his own variables, such as changes in his/her behavior, becomes remote.

Supporters and detractors maintain irreconcilable positions because their respective discourses influence the clinical experience. If a depressed patient experiences cognitive or mnemonic impairment post ECT, a supporter will say that these dysfunctions are due to the depression itself, not the procedure. However, if the patient's "symptoms" improve, supporters will attribute this change to the healing effect of the treatment, not to expectations of improvement or symptoms of a secondary acute organic syndrome (which include euphoria). A detractor would claim the opposite. While for supporters the various clinical indications of electroshock show its high versatility, for detractors what this illustrates is a lack of robustness and substantiation, since the most universal and non-specific medical treatment that exists is the placebo.

Based on the available evidence, we cannot accept the promotion of ECT by exalting its virtues as a way of improving the services and quality of care. ECT should not be considered as just another element in the portfolio of services, but rather as a restricted procedure, to be considered only when other evidence-based treatment options have failed; these other options should be available previously as they preserve the dignity of the person to a greater extent. However, it is impossible to guarantee that the patient has received these treatment modalities. For example, people with psychosis rarely

receive the most scientifically supported psychosocial interventions due to their insufficient implementation in services.

There are alternatives to electroshock. These include strengthening a pluralistic and non-reductionist view of psychopathological problems and their treatment, enhancing the community, integrative, psychosocial, and person-centered paradigm, using recovery-based approaches. Efforts should not be aimed almost exclusively at eliminating symptoms, but at promoting adaptive behaviors, and improving functionality and quality of life. Practitioners must challenge interventions that reinforce and perpetuate a biomedical model of treatment. Especially when they may cause harm to particularly vulnerable people or increase the stigma they suffer. Being critical of ECT does not imply being disinclined, but rather prudent.

ECT will continue to be used for certain reasons as set out in Table 1. Given this reality, mental health professionals are called upon, for ethical and scientific reasons, to take a critical

**TABLE 1**  
**TEN POINTS FOR UNDERSTANDING WHY ELECTROSHOCK**  
**CONTINUES TO BE USED**

1. The persistence of a mechanistic medical model of "mental illness", which in turn is reinforced by the availability of this "treatment".
2. A weak response to the "mental illness" model, installed as a general clinical convention despite being scientifically untenable.
3. The tolerance of mental health professionals. Without this, electroshock would never have become a routine procedure.
4. It offers a medical alternative to the failure of psychotropic drugs.
5. It reinforces an image of science and technological innovation that gives prestige to medical practice.
6. Institutional support. Without the support of the health management agencies, the institutional establishment of electroshock would not have taken place. The administrations finance and promote equipment for ECT based on the axioms of efficacy and safety, which in turn are propagated by biopsychiatry.
7. Medical training for health administrators. A strongly medicalized vision of health care makes it almost impossible for critical debate on mental health within the institutions themselves.
8. The dominant position of biological psychiatry. Within the universities and multidisciplinary units for the training of interns to care centers, this position facilitates the modelling of clinical practices and the influencing and correcting of resistant (not prudent) attitudes among professionals.
9. *Ad hoc* arguments. ECT is defended by "tailored" ethical and scientific arguments, whose robustness is more apparent than real.
10. It moves a lot of money, involving industrial, professional, and educational interests.



look at and confront the medical model on which it is based. It is just as legitimate to propose the concept of “therapeutic inhibition” based on unscientific beliefs as it is to propose “therapeutic enthusiasm” based on unscientific beliefs. The alternatives involve taking up our best psychotherapeutic tradition again. In mental health, evidence-based psychological treatments should be universally present. Facing the exaltation of electroshock, we must inform our users that, unfortunately, quick solutions are rarely possible and are often only transitory. Furthermore, it is necessary to discuss the conceptual foundations of psychopathology from a critical point of view, pointing out its epistemological difficulties, the tautologies and metaphors it introduces. This would be especially important as a propaedeutic for professionals in training, since there are few things more practical for those who are starting out than a good theoretical preparation and a critical attitude that, far from fizzling out in consensus, attempts to go beyond appearances.

#### CONFLICT OF INTEREST

There is no conflict of interest.

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