



PSYCHOLOGY AND ELECTROCONVULSIVE THERAPY (I): HISTORICAL AND CONCEPTUAL ASPECTS

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Este trabajo se estructura en dos partes en las que se exponen de forma crítica antecedentes y evidencias que permiten comprender el uso del electroshock en distintos trastornos psicopatológicos. Trata de indagar cómo es posible que algunos psiquiatras lo indiquen, ciertos pacientes lo acepten o demanden, que las instituciones sanitarias lo avalen, o que determinadas sociedades científicas pretendan dignificar la técnica promoviendo actitudes favorables entre profesionales de la salud mental. Los resultados de la revisión de la literatura se organizan en diferentes líneas argumentales: conceptuales, históricas y científicas. Algunas ideas relacionadas con el uso del electroshock favorecen la medicalización de la salud mental y obstaculizan tratamientos psicológicos con fuerte apoyo empírico, además de aumentar el estigma. Basados en datos que cuestionan rigurosamente la efectividad y seguridad de la denominada "Terapia Electroconvulsiva" (TEC), se recogen argumentos necesarios para un posicionamiento crítico respecto a una opción terapéutica supuestamente infrautilizada en salud mental.

Palabras clave: Terapia electroconvulsiva, Salud Mental, Aceptación de la Atención de Salud, Historia.

This two-part paper exposes in a critical way the background and evidence to enable us to comprehend the use of electroshock for different psychopathological disorders. Our aim is to find out how and why certain psychiatrists indicate this technique, some patients accept it, the health institutions endorse it, and certain scientific societies attempt to dignify it by promoting favorable attitudes among mental health professionals. The results of the literature review are presented in three areas: conceptual, historical, and scientific. Some ideas related to the use of electroshock favor the medicalization of mental health and hinder patients' access to appropriate psychological treatments with strong empirical support, in addition to increasing stigma. Based on data that rigorously question the effectiveness and safety of "electroconvulsive therapy" (ECT), arguments are presented for a critical positioning regarding a therapeutic option that is supposedly underutilized in mental health.

Key words: Electroconvulsive therapy, Mental Health, Patient Acceptance of Health Care, History.

It is difficult to find any other context that more justifies the need for interdisciplinary debate than that of mental health. There have always been numerous controversies in this field because theoretical perspectives coexist that allow psychopathological problems to be understood and dealt with in different ways. This plurality is neither provisional nor anomalous, but rather it is characteristic of mental health (Pérez-Álvarez, 2014). Such plurality is beneficial because of the multi-causal and multi-dimensional nature of mental disorders. Psychopathological phenomena, far from being symptoms of underlying diseases, can be understood as ways of responding to various life problems and situations and to the inherent complexity of the human being (Fonseca & Lemos, 2019).

In this study we aim to investigate the roots of the controversy surrounding electroconvulsive therapy (ECT), a technique that is currently experiencing attempts at revival even among particularly vulnerable populations such as children and adolescents, pregnant women, and the elderly. Our aim is to promote criticism based on improved knowledge of the cause.

THE CONTROVERSY IN CONTEXT

Health practices depend on the dominant clinical culture in each social-historical context. Today the clinical area is dominated by positive science and evidence-based medicine (EBM). However, the relaunch of ECT does not show that science has finally triumphed, as its use is not consistent with an evidence-based approach (Read & Arnold, 2017). What it shows is that certain meta-scientific beliefs prior to EBM have ended up being imposed thanks to an enormously favorable environment. Evidence-based psychiatry is based on diagnostic categories and clinical indications, and it uses science to justify its practices (Valverde & Inchauspe, 2017).

Received: 8 November 2019 - Accepted: 7 January 2020

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However, Bentall (2011) considers that EBM is simply the mark of a dominant practice, and not the result of an accumulation of scientific knowledge. However dominant, EBM's discourse does not allow for the closure of the fundamental debate because in the end the issue is of an epistemological and ontological nature, having to do with the very nature of the behavior and that which some insist on calling "mental illness" (López & Costa, 2012). Talking about mental illness and not disorders has important implications, but this distinction is ignored by a large number of psychiatrists, historians, sociologists, and bioethicists (Valverde & Inchauspe, 2017).

CRITICISM OF THE BIOLOGICAL ORIENTATION IN PSYCHIATRY

Studying the use of electroshock in depth requires consideration of what "biological orientation" means in psychiatry. In fact, the ontological question is not irrelevant to ECT because at the heart of the controversy is the question of whether the brain is a biological machine that causes the mind, or what the relationship is between the brain and the person (Czyzyk, 2013). Psychological problems exist and can be serious, but what does not exist is mental illness, except in rhetoric (Bentall, 2011; López & Costa, 2012), and neither do brain disorders (Borsboom, Cramer, & Kalis, 2019). When talking about mental illnesses even without evidence of them, a definition is introduced that is tailored to certain procedures, and these are automatically legitimated. Understanding mental disorders as biologically based phenomena and treating them with medical interventions is one and the same. But in mental health we don't treat illnesses; we try to solve the psychological problems of people we describe as depressive, psychotic, etc. It is not reasonable to say that a subject is sad because he or she has depressive illness and that he has this illness because he is sad. With this tautology, the behaviors that we qualify as sad lose their autonomous character, their biographical meaning, and their contextual link. We thus make a serious epistemological error that compromises the most appropriate level of analysis.

The concept of mental illness promotes an involvement between discourse and experience that leads to an understanding of the problems experienced as manifestations of underlying diseases. This promotes a medical insight (symptoms, disease, medication) which practically forces the acceptance of biological explanations, and is stigmatizing (Bouvet & Bouchoux, 2015). In the process of medical insight, the biographical events that have led to the problem are either lost sight of or considered irrelevant. If one receives biological explanations for the problems that afflict one in a context of prestige, it will be difficult to reject "cures" for this "disease", understood as a demon to be expelled from the body. The norm would be to accept effective and rapid therapies such as electroshock, euphemistically known as "electroconvulsive therapy" (Lopez & Costa, 2012).

The central problem is that psychological disorders are not medical diseases, but interactive, intersubjective entities,

biographically linked to contexts (Pérez-Álvarez, 2014). But today's dominant psychiatry is biologically oriented, so the standard psychopathological conception is as well. Problems are thought of by default in terms of the brain (Pérez-Álvarez, 2011). Biological psychiatry understands these in terms of an original brain malfunction, disassociating them from the life circumstances and contexts that were present biographically. Its etiological model is generally unidirectional. It is not even contemplated that the disorders could be loops generated by the responses to the present life conditions and the successive interactions that occur in the daily unfolding; loops in which the subject would be trapped, predisposing him to generate his own context of maintenance (Pérez-Álvarez, 2014).

Biological psychiatry reduces psychopathological phenomena to the level of physical-chemical matter. Disorders are considered substantial entities that occur in the brain. This monistic philosophy leads to the approaching of mental disorders in complete analogy with medical diseases, seriously disregarding the role that learning plays in psychopathological problems. Biological psychiatry underestimates environmental factors such as poverty, social adversity, trauma, abuse, and interpersonal problems in the genesis of disorders, and scarcely considers them in its treatment, despite some rhetoric that uses the terms "integral" or "psychosocial", empty of meaning. It does not show genuine interest in the interpersonal aspects, it disdains psychotherapy, and it does not recommend it except as an adjunctive treatment (Pérez-Álvarez, 2014). It maintains the axiomatic and scientific position that the brain explains everything, absorbing the subject, his or her interpersonal environment, and his or her biographical history. This doctrine is known as cerebrocentrism (Pérez-Álvarez, 2011), the language of which molds the formation of future psychiatrists by promoting their adherence. The biological orientation is now dominant and uses its enormous institutional power to impose views. Currently, 90% of psychiatrists are in favor of the use of ECT, contrary to three decades ago (Bertolín, Peiró, & Hernández, 2006). Forty years ago, only 20% declared themselves potential users of the technique according to the *American Psychiatric Association* (APA, 1978). So many psychiatrists are in favor of electroshock today because of the institutional strength of biological psychiatry, which propagates the same pattern of beliefs, practices, and values. The remaining psychiatrists, currently a minority, are critical of the widespread use of electroshock. And just because there are fewer of them does not mean they are any less wise.

A SCIENTIFIC AND CLINICAL HISTORY OF ELECTROSHOCK

Throughout history, people with severe mental disorders and in particular schizophrenia have received a whole range of "therapies" that are today considered unacceptable, although they were once received as medical advances. Some examples presented by Fonseca and Lemos (2019) are the rotational chair, the administration of emetic and purgative substances, the practice of suction cups and incisions, the removal of organs, cold showers, pyrotherapy, insulin comas,



the use of convulsants, transorbital lobotomy, etc. Today, despite the controversy that surrounds it, of all the somatotherapies only ECT continues to be used (Endler, 1988).

Electroshock did not appear due to a sudden scientific finding, but rather it appeared embedded in the clinical tradition of somatotherapies. Their procedures were based on producing damage to the organism for a hypothetical later improvement, turning iatrogeny into therapy. A notorious example was Freeman's transorbital lobotomy, a rudimentary neurosurgery based on prefrontal leukotomy that Antonio Caetano had introduced to reduce psychotic and obsessive symptoms. In his article "*Brain damaging therapeutics*" Freeman defended the idea that the greater the brain damage, the greater the clinical improvement. He understood that the technique cured people precisely because it was harmful, and that the patient could think more clearly with less of the brain functioning (Freeman, 1941). One in four would be left with the intellectual capacity of a domestic animal (Bentall, 2011).

Electroshock was introduced by Cerletti and Bini in Italy in 1938. The procedure, initially indicated for melancholy and severe psychosis, consisted of provoking a convulsive crisis by passing an electrical current of just over one hundred volts through the patient's temples for a few seconds. The technique had as a background the convulsive therapy that Ladislav von Meduna had been using since 1934 by means of camphor/metrazol under a false hypothesis; the existence of a biological antagonism between epilepsy and schizophrenia. Meduna presumed that psychotic symptoms could be reversed by inducing seizures by means of convulsants (Fonseca & Lemos, 2019). Following this hypothesis, during the 1930s cardiazole and insulin were widely used to induce seizures (Vallejo, 2011), and some doctors even injected blood from schizophrenic people into epileptic patients with the intention of curing them. Convulsions were in vogue despite their risks (fatal hypoglycemic comas with insulin, and frequent severe fractures with cardiazole/metrazole).

The young Cerletti, enlisted in the Alpine troops during the First World War, had brought innovations to military equipment showing great ingenuity and creativity. An outstanding student, he had been trained under the influence of figures such as Alzheimer and Kraepelin. Kraepelin maintained a biological perspective for mental disorders, considering that schizophrenia was organic, incurable, and degenerative (Kraepelin, 1988). For Kraepelin, patients were considered more carriers of symptoms than people with a history and experiences to tell (Bentall, 2011).

Electroshock was not the first use of electricity to treat behavioral problems. In the 16th century the Jesuits used discharges to expel demons through contact with fish capable of producing them, probably attributing intrinsic healing properties to electricity. In the 18th and 19th centuries, electrical appliances were used to treat psychogenic blindness and depression, and in 1903 Batelli used household current

to produce epileptic seizures in animals (Endler, 1988). Aware of these practices, Cerletti began experiments to induce epileptic seizures in dogs. Between 1936 and 1937, the kennel supplied the Cerletti clinic with dogs on a weekly basis. Only half of the dogs survived, so he feared the shocks would be fatal to humans. However, he visited the local pig slaughterhouse and observed that the stunning produced by the electric shock was only momentary, considering then that the technique could be used on humans. His assistant Bini confirmed that the survival rate improved if the electrodes were placed bilaterally on the dog's skull, while the convulsions continued to occur. Cerletti and Bini presented the results of their experiments in Switzerland at the first international meeting on therapies for schizophrenia in 1937. It was not disputed whether their technique, which they went on to call "electroshock treatment," would be effective for schizophrenia, but whether it would be effective in producing seizures.

The first human trial was carried out on a homeless man brought in by the police. He had delusions and hallucinations, among other symptoms, so he had been diagnosed with schizophrenia. The patient was indifferent both to the procedure in progress and to the many observers present in the room. The electrical apparatus was able to reach more than 100 volts and was built by Bini with the help of a technician, since Bini, much younger than Cerletti, and contrary to what is usually assumed, lacked clinical experience and was not an electrotechnical expert. The observers sweated profusely until the long-awaited seizure occurred (Accornero, 1988). The patient's improvement was instantaneous, as he regained coherence and said, "Not again! It's deadly!" (Impastato, 1960, p. 1113). In the following days, the patient received a total of 11 sessions until improvement was observed, and he was discharged in good condition (Endler, 1988). Three years before Freeman defended the idea of a positive relationship between damage and improvement, Bini (1938) published that electroshock causes widespread and severe neuropathology in the brain, and that these alterations could be responsible for the observed changes.

In New York, Almasi and Impastato first used electroshock in 1940, after testing its safety on dogs. Back in March, Gonda had administered the treatment in the city of Chicago to 40 patients in an atmosphere of enthusiasm that would soon become widespread. The innovation also came to Spain in 1940.

A year later, the first monographic book, *Shock Treatment in Psychiatry*, was published (Jessner & Ryan, 1941). The authors state that electroshock produces memory loss, changes in brain waves, cell damage, and vascular lesions that they associate with therapeutic effects such as euphoria or hypomania. Breggin (1998) believes that this initial recognition of damage is responsible for the negative social image of electroshock, not the cinema.

The use of electroshock became popular for severe depression and psychosis, and its apparent efficacy caused



many psychiatrists to become enthusiastic in the 1940s (Read, 2004). From the 1950s, anesthetics and myorelaxants were introduced to prevent bone fractures, dislocations, and tooth fractures due to seizures, in what became known as "modified ECT". However, it was necessary to increase the intensity of the electrical current administered to counteract the anticonvulsant effects of these drugs, making it potentially more dangerous (Breggin, 1998).

Soon psychopharmacology became the focus of attention and lobotomy declined rapidly. Electroshock endured, although certain sectors saw it as a discredited, archaic practice, not without side effects, compared with the novelty of the schools of psychotherapy. Randomized clinical trials in the 1950s comparing modified ECT with a placebo (simulated ECT using deep sedation without electric shock) revealed no difference between the groups, and all enthusiasm faded (Read, 2004). One study concluded that the prior effectiveness described was largely due to the procedures involved themselves, such as the administration of an anesthetic and all the mystique involved in an unusual form of treatment (Lambourn & Gill, 1978).

Some psychiatrists continued to use electroshock. Fink, in his early works, argued that the therapeutic effect of the procedure resided in damaging the brain, suggesting that the improvement was related to manifestations of brain injury due to the organic brain syndrome that the technique itself induced. This author speaks of brain trauma and compares electrically produced seizures to those secondary to head injuries, but these claims were later rejected by Fink and were never reported in the APA reports (Breggin, 1998).

In 1978 the APA published *The Practice of Electroconvulsive Therapy* from a purely biological perspective. It states: "In attempting to dissolve mental illness in behavioral and socio-cultural theories, the modern critic has paid little attention to the pervasive and stubborn nature of severe intrapersonal psychopathology and the suggestive evidence that at least some aspects of mental disorder spring from biological factors as yet only poorly understood. Clinical observation persuades us that these aspects are not likely to disappear without active intervention of a medical nature" (APA, 1978, p.135).

From the 1970s, there was considerable social activism against electroshock that led to legislative changes. Some jurists describe the technique as "extraordinary and potentially dangerous" (APA, 1978, p.139). In 1982 the citizens of Berkeley, California, voted to ban it. Supporters of ECT tried to show that this mobilization was wrong by publishing studies with surprisingly positive results at the expense of not respecting the minimum methodological rigor (Read, 2004). The APA positioned itself against legal standards that it deemed unduly restrictive and advocated that all public and private mental health services be equipped with ECT. Furthermore, among other factors, it attributed the technique's negative image to the cinema, which it believed created a dramatic and exaggerated image of it (APA, 1978).

Controversy over its effectiveness accompanies the history of electroshock. In 1980 the *Northwick Park ECT Trial* (Johnstone

et al., 1980) was published. It was the most complete clinical trial to date, and it found no difference between real and simulated ECT in depressive patients beyond 4 weeks. Interestingly, the minimal and transitory improvements in the experimental group were only perceived by psychiatrists, not by patients or nurses. In the last 30 years, for ethical reasons, no new, methodologically adequate effectiveness studies have been carried out in the West, with a control group, random assignment, and other experimental control elements that would allow conclusive results to be obtained. Obviously, simulating electroshock involves repeatedly anesthetizing the patient. The problem is that studies that preserve internal validity are unfeasible in our context because ethical impediments make them impossible, and many researchers have come to ignore the need to use control groups to guarantee their conclusions, suspending the proving of the falsification of effectiveness indefinitely. According to the Spanish Society of Psychiatry (SEP, 1999) there is enough information to show that real ECT is more effective than simulated ECT, and no further studies need to be performed against placebo. However, studies in non-Western contexts found no difference between real and simulated ECT (Sarita, Janakiramaiah, Gangadhar, Subbakrishna, & Rao, 1998; Ukpong, Makanjuola, & Morakinyo, 2002).

With the aim of developing some agreement on ECT, the Consensus Conference (1985) was held. Participants discussed the effectiveness, potential abuse, and the need to protect patients' rights. The supporters were unable to present a single controlled study showing that ECT had positive results after 4 weeks, which is critical for establishing the risk/benefit ratio of any medical procedure. In terms of evidence of the adverse effects, no classic controlled studies on memory impairment were presented; these were repeatedly ignored by the APA. For Breggin (1998), the fact that the improvement lasts 4 weeks confirms the principle of brain damage, since that is the approximate time of recovery from the effects of acute organic brain syndrome induced by ECT.

In 1985 the journal *Convulsive Therapy* was created; currently the *Journal of ECT*. Soon the APA updated *The Practice of Electroconvulsive Therapy*. Their goals included stifling the growing controversy and protecting psychiatrists from potential brain injury lawsuits. Just when the *Food and Drug Administration* (FDA) was preparing to evaluate the safety of electroshock machines, the APA was able to convince it that such a review was not necessary (Breggin, 1998). The APA succeeded in making its report the basis for the FDA document, which continued to fail to test the safety and effectiveness of ECT machines (Breggin, 2010). Regarding evidence of memory damage, the APA report (1990) cites a single study (Freeman & Kendell, 1986) that Breggin (1998) says was distorted. Freeman and Kendell (1986) had recognized a downward bias in damage assessment because patients were interviewed by the same physician who was treating them. Even so, 74% reported continued memory impairment, and 30% reported that their memory had been permanently affected, the same percentage



that was later found by Rose, Wykes, Leese, Bindman, and Fleischmann (2003). In addition to proclaiming that ECT is an extraordinarily effective form of treatment, the APA welcomed contributions to the draft document. Many came from Richard Abrams, president of Somatics LLC, manufacturer of Thymatron© since 1984, although this affiliation was never mentioned in the report (Breggin, 1998). With a shameless concealing of his interests, and despite recognizing that ECT is often ineffective for schizophrenia, Abrams recommended that it should be tried on all patients as soon as possible (Read, 2004).

The APA (1990) observed that unilateral low-dose ECT is less effective than other modalities that use more electrical power. Regardless of electrode placement, patients receiving higher doses respond more quickly, but the degree of disorientation and retrograde amnesia is greater. Freeman's old idea of "the greater the damage, the greater the improvement", seems to still be present when doses of electricity are used that far exceed the amount needed to produce seizures. Some authors even advocate eliminating the limiters that equip electroshock devices for safety reasons (Breggin, 1998).

The APA (1990) advocates that ECT can be used regardless of age. Kamholz and Mellow (1996) recommend it as first-line therapy in the elderly and assume that it poses no special threat to a vulnerable brain, despite the evidence of harmful effects, worse outcomes, and possible increased mortality (Burke, Rubin, Zorumski, & Wetzel, 1987; Kroessler & Fogel, 1993). This recommendation clashes with the generally accepted clinical convention that the elderly are especially sensitive to biopsychiatric interventions, including low-dose medication. In addition, this population already frequently suffers from memory problems that could be aggravated by ECT. In terms of the child population, between 500 and 3,500 minors were receiving ECT each year in the United States alone (Thompson & Blaine, 1987).

At the end of the 20th century, the use of electroshock increased in North America, and it is thought that its growth in Europe was likely due to the considerable promotional efforts of biological psychiatry. In 1992 the first European symposium was held in Austria with the presence of Fink, co-author of the APA reports (1978, 1990). By this time, the typical ECT recipient was a depressed woman in her 60s, although an attempt was made to increase its use in other age groups, including children and adolescents (Breggin, 1998). Whilst its use for those under 12 years of age was exceptional, children appeared as candidates, whereas in pregnant women the procedure was presented as "very safe in the last two trimesters of pregnancy and probably safe in the first trimester" (SEP, 1999, p.20).

ELECTROSHOCK IN THE 21ST CENTURY

The APA updated its report on TEC in 2001. As a novelty, it stated that a small number of patients experience devastating cognitive consequences that prevent them from returning to previous occupations. A comprehensive review study was published shortly afterwards (UK ECT Review Group, 2003)

concluding that the quality of the available evidence is low, as only 73 of 624 reviewed studies on ECT met the minimum standards. The 2003 NICE (National Institute for Clinical Excellence) guidelines set out clearly restrictive indications. In general, NICE has been cautious in recognizing that long-term risks and benefits have not been clearly established. It states that ECT should not be used to prevent the recurrence of long-term depression, nor should it be used as a general treatment for schizophrenia (NICE, 2003). Regarding long-term effectiveness and safety, it highlights the need for urgent research (NICE, 2009).

In our country, the first consensus was published in 1999 reproducing the APA recommendations (1990). The Spanish Consensus was updated almost 20 years later, largely following the APA report (2001). This new document from the Spanish Society of Biological Psychiatry (SEPB in Spanish) aims to, among other things, promote training in ECT, improve knowledge, and foster more positive attitudes among professionals. It denounces an under-utilization of the technique explained by the concept of "therapeutic inhibition" due to "a stigma based on beliefs lacking scientific evidence" (SEPB, 2018, p. 3). With respect to children and adolescents, it states: "Despite the growing scientific evidence on the safety and effectiveness of ECT in children and adolescents, it is still an underused technique" (SEPB, 2018, p. 48). The review studies are in complete disagreement with this statement (Baldwin & Oxlad, 1996).

Given this complex panorama, it is curious that biological psychiatry maintains the same approach as Cerletti eighty years later. First, that the technique is effective and safe. Second, that in order to achieve improvement, a certain number of sessions are required, which is around a dozen, although there are some variations (Leiknes, Jarosh-von, & Høie, 2012). The Spanish Consensus itself recognizes, as does the APA (2001), that the exact number of sessions for a treatment cannot be anticipated, and that it ends when no further improvement is obtained. Third, the most frequent electrode placement (80%) remains bilateral (Leiknes et al., 2012), as in 1938.

ECT remains the most controversial treatment in psychiatry today. While in some regions it seems to be spreading with the momentum of EBM and the consensus of scientific societies, in countries like the UK its use continues to decline (Read, Harrop, Geekie, & Renton, 2017).

CONCLUSIONS

ECT epitomizes a radically biological view of mental disorders. This practice has its origin in considering psychopathological problems as issues of the brain, disassociating them from the biographical and environmental contexts that led to them. If there is no mental illness, there is no cure. If there is no disease or faulty mechanism residing in the brain that is causing the problem behavior, ECT represents a genuine sham of a therapy rather than an actual therapy. According to a medical model of mental illness, psychiatrists use ECT emulating procedures from other specialties in a



mimicry exercise that possibly uses a sophisticated but not harmless placebo.

The revival of ECT is not due to new scientific findings but to contextual reasons, uniquely the dominant status of biological psychiatry. This technique hinders a phenomenological understanding of pathological behavior and blocks possible efforts to understand the patient's experience, making a non-mechanistic understanding of their behavior impossible and reinforcing the false idea of damaged brain circuits that the treatment restores. ECT represents a form of biomedical reductionist intervention; a counterexample of comprehensive care. However, the simplistic view of psychopathological problems that it promotes may be well received. Simple explanations work best and offer some sense of security to professionals in a field as complex and prone to uncertainty as mental health. After all, uncertainty is aversive, and any behavior aimed at removing it will be reinforced. It can be tempting for users to think that it is the brain that is causing the problems, and not a particular biographical interweaving between the self and the environment. Finally, in a highly medicalized context, institutions are favored by models of rapid problem solving that maximize efficiency and choose to optimize resources, at the expense of neglecting what patients expect, usually the empathic understanding of another human being. The fact is that the most powerful stimuli that we have for changing a person's experiences are not electrical impulses, but rather empathic care from another human being.

The history of electroshock is surrounded in controversy and

marked from its origin by a strong relationship with coercive treatment approaches that in the current perspective collide with an ethical and humane vision of care. Despite possible favorable short-term results and the intense promotion that it receives from biological psychiatry, its historical origin, its lack of etiological foundation, and its limited usefulness beyond a few weeks mean that it has a reputation as a pseudo-treatment that the propaganda efforts have not managed to eliminate.

CONFLICT OF INTEREST

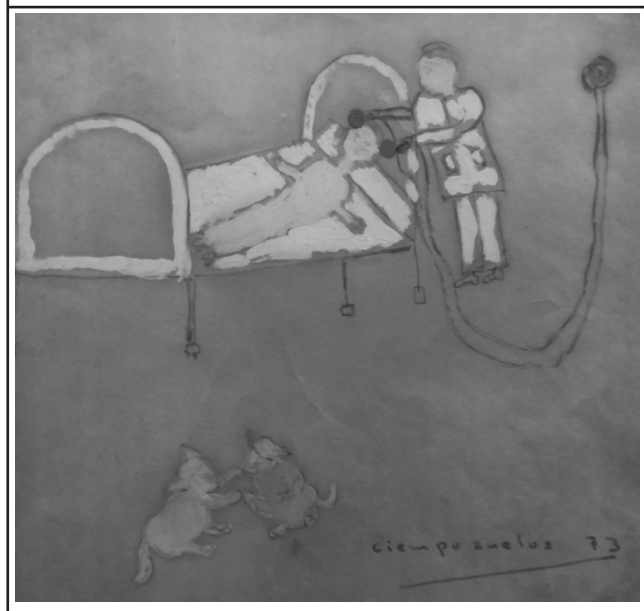
There is no conflict of interest.

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FIGURE 1

ECT SESSION DRAWN IN 1973 BY A PATIENT FROM CIEMPOZUELOS PSYCHIATRIC HOSPITAL. TWO DOGS APPEAR TO BE PLAYING FREELY IN THE FOREGROUND WHILE THE SHOCK IS APPLIED





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