

SCIENCE AND PROFESSIONAL PRACTICE IN CLINICAL PSYCHOLOGY. PSYCHOTHERAPIES AND PSEUDO-THERAPIES IN SEARCH OF SCIENTIFIC EVIDENCE

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La psicología está considerada una disciplina científica, pero algunas de sus especialidades, como la psicología clínica, tienen importantes dificultades para aplicar el método científico y trasladar los resultados de la investigación experimental al contexto profesional. Esta situación es especialmente problemática cuando multitud de teorías hacen que proliferen numerosos tratamientos psicológicos y que se sustente la idea (¿equivocada?) de que todos funcionan. El enfrentamiento entre posicionamientos basados en los aspectos comunes de las psicoterapias, en confrontación con los centrados en las técnicas, ha facilitado el camino y la expansión de pseudoterapias y la confusión de la población en general. Todo esto ocurre dentro de un contexto en el que ya existía un importante desencuentro entre la ciencia y la práctica clínica que afecta a muchos ámbitos profesionales de la psicología. El debate sobre los tratamientos y la asunción de que todos son eficaces permite mantener una actitud permisiva ante el uso de cualquier tratamiento, a veces avalados por algunas universidades, colegios profesionales y sociedades científico-profesionales, sin establecer restricciones a la difusión de propuestas pseudocientíficas, que no han sido sometidas a contraste empírico. En este trabajo presentamos un análisis del estado actual del tema y debatimos algunos de los aspectos más importantes.

Palabras clave: Tratamientos psicológicos, Psicoterapias, Pseudoterapias, Psicología basada en la evidencia, Ensayos clínicos aleatorizados.

Psychology is considered to be a scientific discipline, but some of its specialties, such as clinical psychology, have significant difficulties in applying the scientific method, and in transferring the results of experimental research into the professional context. This situation is especially problematic when a multitude of theories fosters the proliferation of numerous treatments, as well as the (erroneous?) idea that all of them work. The confrontation between stances based on the common aspects of psychotherapies and those focused on techniques has opened up a path for pseudotherapies and their expansion, along with the confusion of the general population. This situation takes place within a context in which there was already significant disagreement between science and clinical practice that impacts many professional areas within psychology. The debate about the efficacy and the assumption that all treatments are effective enables the maintaining of a permissive attitude towards the use of any treatment, sometimes even supported by some universities, professional associations, and scientific-professional societies, without restraints on the dissemination of pseudoscientific proposals that have not yet been empirically tested. This work analyzes the current state and discusses some of its most important aspects.

Key words: Psychological treatments, Psychotherapies, Pseudo-Therapies, Evidence-based psychology, Randomized clinical trials.

Only science can distinguish good interventions
from bad ones.

(Westen, Novotny, & Thompson-Brenner, 2004, p. 632)

Received: 26 June 2020 - Accepted: 13 July 2020

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One of the greatest debates in clinical psychology is focused on finding and delimiting which treatments are best for a particular person who presents a particular problem. This situation is especially complex in a field where we work with humans in their natural habitat, with enormous behavioral diversity that makes it difficult to control many of the variables involved in the scientific process of validating treatments. The main problem with the objectives of psychotherapies and treatments, in general, is that randomized clinical trials (RCTs) can show that a treatment

works, but it is much more difficult to demonstrate how they do so (Cuijpers et al., 2019) or which of their components cause a certain effect (Primeró & Moriana, 2011). Knowing why psychological treatments work and the processes that explain the clinical change are key questions that are difficult to answer (Froján, 2011).

The existing variety of psychological approaches, models, and theories has led to the development of a multitude of treatments and, although a widespread trend is to argue that they all work, the reality seems to be different (Chambless & Ollendick, 2001; Kazdin, 2008; Moriana et al., 2017). Not only do many of these treatments not work, achieving results similar to a placebo, but they can also be harmful. In addition, there is a major disagreement between science and clinical practice when we see that it is not always the treatments that science claims to work that are used in the clinical setting, nor is everything that professionals do in their consultations verified based on empirical evidence. This gap deeply affects many areas, from the teaching of psychology in universities to professional practice, including the information available to the public. This situation is compounded by the proliferation of pseudo-therapies, creating a major healthcare, economic, and professional problem. In this article, we will present an analysis of the current situation and aim to propose some recommendations and alternatives to focus the debate and improve the validation process of psychological treatments.

PSYCHOPATHOLOGY AND DIAGNOSIS AND THEIR RELATIONSHIP TO PSYCHOLOGICAL TREATMENTS

A significant part of the difficulties we have in investigating psychological treatments has its roots in psychopathology itself. According to Cuijpers (2019), if we still do not really know very well what mental disorders are, how they should be defined, and what the causal mechanisms leading to them are, what should the objectives of the treatments be and how can we measure their results?

Almost all research, and especially RCTs, have focused on symptom reduction as a primary variable, in congruence with the dominance of the DSM (Diagnostic and Statistical Manual of Mental Disorders) and ICD (International Classification of Diseases) categorical diagnostic systems. However, there is little information on other variables such as the results perceived by the patient, intermediate results, negative outcomes, economic results, and other related variables.

Despite the fact that mental disorders are one of the most important public health problems, we have no objective proof or parameters to establish exactly whether a mental disorder exists, nor are there clear thresholds to determine when a patient has a disorder and when he or she does not (Cuijpers, 2019). Most psychologists work with «normal» people, not necessarily sick people, who have problems that should not be considered «mental disorders» (Primeró & Moriana, 2011). In this line, studies carried out in applied contexts show that between a third and a half of patients cannot be diagnosed using the DSM because their problems do not fit or because they have sub-threshold levels for

different categories (Stirman et al., 2003; Westen et al., 2004). Therefore, although it seems necessary to have a classification system and to be able to name these phenomena, perhaps we should propose other terms in cases where there are not well-formed diagnoses (e.g. problems in living, psychosocial problems, distress, etc.), which would facilitate the normalization of these events, and avoid the stigma and «psychopathologization» of everyday life.

For some psychologists, mental disorders should be considered as dimensions along which the individual is positioned (e.g., neuroticism-stability) (Castro, 2011). However, in many cases, they cannot be limited exclusively to a question of positioning along one dimension, but also to other equally relevant variables such as discomfort, misunderstandings, threats, gaps, motivations, or life goals. For these reasons, traditional evaluation and diagnostic systems (DSM and ICD) have received numerous criticisms and proposals for improvement (Barlow et al., 2013; Kazdin, 2008; Wampold, 2007).

In this context, new alternative proposals to traditional psychopathology evaluation and diagnosis have emerged, such as network theory (Blanco et al., 2019), transdiagnostic models (Sauer-Zavala et al., 2017), Research Domain Criteria (RDoC) (Cuthbert, 2014), the Hierarchical Taxonomy of Psychopathology (HiTOP) (Kotov et al., 2017), the Power Threat Meaning Framework (PTM Framework) (Johnstone & Boyle, 2018), other options widely used in clinical practice such as functional analysis (Froján, 2011), or the more than eighty theories of psychological change (Michie et al., 2014). Although many of them could even be complementary, the reality is that the assumption of one or another implies not only the use of a specific language, but also a particular interpretation of the foundations of human behavior.

All these systems have advantages and limitations. However, the need to classify and communicate makes it clear that we will have to choose one. But if we already have disagreements and difficulties even in naming our problems, imagine looking for a treatment for something when we do not even know very well what it is.

OPPOSING POSITIONS IN CLINICAL PSYCHOLOGY

Although there are many opinions and meanings in this respect, there is a continuum between two traditionally opposed positions, which defend, on the one hand, the contextual aspects, based on the relationships or «common factors» of psychotherapies and, on the other, the aspects based on the specific «techniques» of treatment.

One of the most relevant representatives of the former is Wampold (1997; 2007; 2015). This author argues that what prevails in the efficacy of treatments are the common factors referring to the patient, the therapist, the relationship between the two, or the therapeutic process itself, rather than the specific components of each technique. A recent meta-analysis of 84 studies on psychological interventions for depression suggests the possibility that the beneficial effect of psychological therapy may be due to factors common to all of



the therapies (Palpacuer et al., 2017). This approach has been advocated by all types of professional organizations and therapeutic approaches, more focused on the development of the individual and his or her personal growth, than on specific disorders and diagnoses.

Within this framework, the «Dodo bird verdict» in psychology (Wampold, 1997) defends the equivalence of the psychotherapies: «everyone has won and all must have prizes», that is, there are no significant differences in efficacy between the treatments. This hypothesis has been defended by some (Pérez-Álvarez, 2019) and criticized by others (González-Blanch & Carral-Fernández, 2017), who doubt its plausibility (Ehlers et al., 2010; Lilienfeld, 2007). How can it be true that «all treatments win or serve», if most treatments have not been investigated under controlled conditions?

There are socio-political reasons that would explain the persistence of the Dodo bird verdict, since the slogan «everyone has won» allows for a permissive attitude towards the use of any treatment, without restrictions or penalties for the dissemination of pseudo-scientific activities, which have not yet been subjected to empirical testing, and which could have harmful effects directly or indirectly.

At the other pole of the continuum is the position that argues that therapeutic success is mainly due to the technique used and gives prominence to manualized therapeutic procedures that have proven their efficacy in controlled studies. Authors such as Chambless and Hollon (1998) or Kazdin (2008) argue that of the multitude of interventions that psychologists develop and offer, it is unrealistic to think that they are all effective. There will be interventions that will be effective to a greater or lesser extent, others that will be ineffective, and there will even be some that are counterproductive or generate harmful effects.

As indicated by Kazdin (2018), for most evidence-based treatment (EBT) recommendations and statements, a treatment is considered empirically supported if it meets most of the following criteria: 1) comparisons of the treatment with a control condition, 2) random assignment of participants to the treatment and control condition, 3) careful population specification, 4) the use of treatment manuals that specify the treatment procedure in detail, 5) multiple measures of treatment change, 6) statistically significant differences at the end of the intervention period between the treatment and control condition, and 7) replication of results by an independent researcher or research team that can reproduce the findings of the original study.

The appearance of the first lists of EBTs (initially called «empirically validated treatments») generated quite a lot of controversy (Chambless & Ollendick, 2001). In this regard, Estupiñá (2012) notes that the lists were criticized for three main reasons: 1) the term «empirically validated treatment» may suggest that the other treatments are invalid or ineffective; 2) the approach applied in the creation of the lists favors behavioral or cognitive-behavioral therapies over other clinical paradigms less centered on standardization

procedures such as manualization of treatment; and 3) the lists of treatments are proposed based on the hypothesis that the active element of psychological treatment is the technique, which goes against the psychological approaches that state that the active agent of the therapy is the therapeutic relationship.

In order to address the controversy generated since the emergence of EBT lists, the American Psychological Association (APA) proposed the definition of «evidence-based practice» (EBP) as «the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences» (APA, 2006, p. 273). Therefore, the concept of EBP could be understood as a decision-making process formed by three pillars (Spring, 2007): 1) the available scientific evidence; 2) the clinical expertise, which is the result of the combination of accumulated academic education, training, and clinical experience; and 3) the patient preferences, which include factors such as the client characteristics, the context, the willingness to change, or the degree of social support.

SCIENTIFIC EVIDENCE IN PSYCHOLOGY. WHAT WE ALL ASPIRE TO AND OFTEN DO NOT GET

Basic science and applied science have ostensible differences when it comes to controlling variables. While basic science uses experimental control, preferably in the laboratory, with objective measures, applied science often works in real contexts with people, unique subjects with thousands of particularities and singularities that are difficult to control, and with numerous variables that modulate or contaminate the main effects of the variables under study.

As far as research into psychological treatments is concerned, there is a pyramid of scientific evidence that we share with medicine and other disciplines. Within this pyramid, RCTs and meta-analyses stand out as the gold standard of evidence. RCTs are considered the most adequate design to demonstrate that an intervention is effective (Akobeng, 2005). In this type of study, patients are randomly assigned to various intervention or control conditions, the latter being a usual treatment, a placebo, or a waiting list. Although the existence of one or two RCTs with a quality methodological design is usually a requirement to reach the first levels of evidence, it is advisable for the results of individual trials to be supported by meta-analytic studies. Further down the pyramid there are other approaches (e.g. single case studies or expert consensus) that often complement the evidence from RCTs and meta-analyses, but which, on their own, would not justify the validity of a psychological treatment.

Some authors suggest that the fact that RCTs are appropriate for research in medicine does not necessarily mean that they are the most appropriate way to investigate the outcomes of psychotherapy (Westen & Morrison, 2001), arguing that they should not be the «gold standard» of research in clinical psychology because they do not provide more evidence than qualitative studies (Gyani et al., 2015).



This has led to a situation in which many psychotherapeutic modalities present very little scientific evidence in controlled studies, given the difficulties in manualizing treatments with large doses of individualization. However, these difficulties do not exempt them from the responsibility and need to evaluate their results, as attempts have been made to do with the psychodynamic (Steiner et al., 2017), humanist (Mullings, 2017), and systemic models (Van der Pol et al., 2017). Therefore, these therapies should make every effort to apply scientific foundations to empirically demonstrate the mechanisms underlying their therapeutic changes.

On the contrary, cognitive and behavioral treatments, with more tradition and ease in manualizing techniques and treatment packages, have validated numerous therapies in controlled trials. This situation has led to a proliferation of recommendations for cognitive and behavioral treatments in most of the lists of effective treatments promoted by the scientific-professional institutions, as opposed to other much less represented models.

EVEN SCIENTIFIC MODELS HAVE PROBLEMS

With the increase in RCTs and meta-analyses from the 1980s onwards, organizations such as the Cochrane Collaboration, the National Institute for Health and Care Excellence (NICE), or the American Psychological Association (APA) emerged and led the initiative to review and disseminate lists of treatments, EBT guidelines, RCTs, and systematic reviews. These institutions created their own evaluation criteria and procedures, resulting in the coexistence, today, of numerous systems for grading the quality of evidence for the different psychological interventions.

In a scientific discipline like psychology it is not appropriate that each organization has its own criteria of evidence and systems to determine which treatments should be recommended and which should not. Bearing in mind that all these criteria were based on RCTs and systematic reviews, it was to be expected that the recommendations about the treatments of choice for the different disorders could be similar, or very similar. However, the reality is different. Moriana et al. (2017) reviewed a total of 135 psychological treatments for 23 mental disorders in the adult population, comparing the level of recommendation and agreement between treatment lists, guidelines, RCTs, and meta-analyses from Division 12 of the APA (the Society of Clinical Psychology), Cochrane, NICE, and the Australian Psychological Society. These authors concluded that the level of agreement among these institutions was lower than expected, with numerous discrepancies and contradictions appearing among their recommendations. In a similar study, Gálvez-Lara et al. (2018) compared a total of 137 treatments for 17 mental disorders in a child and adolescent population, also using the recommendations of the institutions reviewed in the previous study (in the case of the APA, the recommendations of Division 53, the Society of Clinical Child and Adolescent Psychology were reviewed). The results indicated that the disagreement among the organizations was

even greater in the child population than in the adult population.

The findings of the two previous studies suggest the presence of a lack of consensus regarding the meaning of the scientific evidence, which could be misinterpreted. In this sense, almost all psychology professionals allude to EBTs, arguing that what they do in clinical practice is evidence-based, although we suspect that this claim is overstated. For this reason, the scientific community should promote an international consensus to establish common criteria and evaluation procedures to help determine which psychological therapies have a beneficial effect on patients and which lack sufficient evidence to support their efficacy.

Despite the fact that RCTs are the most indicated option to validate psychological treatments, they present important limitations derived from their application to the study of human behavior, among which we can highlight the following:

1. Biases in sample selection. The samples do not represent the usual patient in clinical practice (Gyani et al., 2015), they do not meet the minimum criteria for symptom severity (Stirman et al., 2003), or they exclude patients who present comorbidity, so the results obtained in controlled situations cannot be extrapolated to usual treatment settings (McLeod et al., 2017), and there are important differences between the two (Weisz et al., 1995).
2. Biases associated with the therapist (personality, style, alliance, availability, etc.) and the therapist-researcher (Fonagy & Clark, 2015).
3. Experimental death is very high (estimated at 20-30%; Wood et al., 2004).
4. The use of diagnostic criteria and symptoms according to DSM/ICD (almost exclusively), without taking into account the mechanisms of action and change of the treatments (Dozois, 2013), or other objectives such as obtaining work, finding friends, or housing.
5. A multitude of measuring instruments are used for the same construct (Cuijpers, 2019), which sometimes have low levels of validity and reliability.
6. It is estimated that only 45% of trials in psychology apply blinded assessment, whereas in medicine the figure is usually 98% (Huhn et al., 2014).
7. In RCTs, «personalized» treatment, although desirable, has limitations, since it is not easy to manualize treatments in a flexible way so that they can be adapted to the individual without losing a homogeneous or common meaning among the interventions (Moriana & Martínez, 2011).
8. The adverse effects of psychological therapy. The negative effects of some psychotherapies and treatments are a reality. Just as there are side effects of pharmacological therapies, psychological therapies can also have adverse effects, such as those indicated for therapies to recover repressed memories, debriefing, rebirthing techniques, or interventions to instill fear (Berk & Parker, 2009; Lilienfeld, 2007). A significant number of adult patients



- who participate in clinical trials of psychotherapies (5-10%) even end up worse off than at the start of treatment (Lambert & Ogles, 2004).
9. Difficulties in measuring and controlling the effects common to different therapies, such as clinical expertise, therapeutic alliance, empathy, charisma, therapist skills, etc. (Stewart et al., 2012).
 10. As in other areas of psychology, RCTs also have problems of replication, publication bias (the tendency to publish positive results rather than negative ones), «loyalty» to the researcher's psychotherapeutic model, and questionable research practices such as fabrication and falsification of data. Psychology is one of the disciplines most likely to publish positive results (Aarts, 2015; Waters et al., 2020).
 11. Too many clinical trials of low methodological quality are published. Many RCTs in psychology are not previously registered in a repository. Journals do not control or check the accuracy of many of the data, and authors do not provide them in an open, transparent, and anonymous way. Many journals do not require the reporting of research approval by ethics committees. Furthermore, journals, authors, and institutions often use different evidence criteria.

THE APPEARANCE OF PSEUDO-THERAPIES

Although they have been with us for a long time, the situation has worsened with the pseudo-therapies' dazzling arrival on the scene. Many of them are disguised as scientism and they stretch to the maximum the placebo effect, befriending (being kind or treating the patient as a friend), charisma (and manipulation), and the therapeutic skills applied to people who are susceptible, and some even desperate.

A pseudo-therapy is considered to be a substance, product, activity, or service with a supposed health purpose that does not have the support of scientific knowledge or evidence that guarantees its effectiveness and safety. They are based on theories that seem scientific and very logical, the false therapists being true specialists in explaining, simply and for the general public, non-proven theories in a much more didactic way than many psychologists, professors, and scientists are able to do.

According to the *Asociación para Proteger al Enfermo de Terapias Pseudocientíficas* [the Association for the Protection of the Sick from Pseudo-Scientific Therapies] (APETP), many people turn to healers and pseudo-therapists because the patient is in an emotionally weak situation, because he or she has a series of needs that are not covered by the public health system, or simply because someone offers it as effective. Likewise, visits to pseudo-therapists are maintained because of superstitious behavior, chance, placebo, charisma, for company in the face of loneliness, or simply because they are willing to pay for someone to pay attention to them.

The Ministry of Health, Social Policy, and Equality published a document in which it identified and analyzed 139 techniques in the field of natural therapies, of which only some

(according to the document) have a direct influence on health and the rest are essentially aimed at the «well-being or comfort of the user». This report states that the scientific evidence available on their effectiveness is very scarce and although in most cases these therapies are harmless, they are not completely risk-free. Precisely for this reason, and even in the supposed case that they are «harmless», the citizen should have the right to be informed by the administration of the evidence of an activity offered as healthcare, so each person could decide if they wanted to make use of it ultimately. But perhaps it would be more appropriate to make a list of effective therapies with their corresponding levels of evidence rather than a list of pseudo-therapies.

There are many therapies that are in their infancy, in experimental phases, in which they have not yet had time for empirical demonstration with controlled studies. What would happen then with the new psychological therapies? Could they be classified as pseudo-therapies? It could be the case that a new and modern psychological therapy prior to having RCTs or other evidence in its favor is classified as pseudotherapy. For this reason, the most important thing would be to update and publicize the treatments that provide evidence and analyze their level and corresponding evolution. Also, on some occasions, the name «treatment» could be changed for others with other implications (e.g. non-scientific or health-related activities that could increase personal well-being).

WHY DO MANY PSYCHOLOGY PROFESSIONALS NOT USE EBTS?

Numerous studies suggest that research findings have little impact on clinical practice and are not fully consolidated in applied settings (Barlow et al., 2013; Fernandez-Alvarez et al., 2020; Galvez-Lara et al., 2019). Furthermore, according to Kazdin (2018, p. 82), «most treatments in use are not supported by evidence and many supported treatments are not in widespread use».

The existence of a gap between the scientific research and applied clinical psychology has been highlighted by many authors (Castonguay et al., 2013; Kazdin, 2018; Lilienfeld, 2010). This situation, in addition to being a professional limitation for the researcher and clinician, can have a negative impact on patient well-being, because if the results of research are not applied to daily practice, patients will not be able to benefit from the accumulated knowledge and evidence (Tasca et al., 2015).

There are several arguments that could explain why applied psychologists do not use or value the results derived from scientific research. Clinical psychologists often feel that research findings do not reflect the reality of clinical practice (Tasca et al., 2015), and because of the difference between intervening under controlled conditions and intervening in everyday situations, these findings cannot be extrapolated to usual treatment settings (McLeod et al., 2017).

Some therapists suggest that there is an incompatibility between focusing on the therapeutic alliance and basing



clinical practice on research results, considering that the therapeutic alliance is more important than the technique used (Stewart et al., 2012). In addition, they claim that they do not use manualized treatments because they consider them too rigid, which would be detrimental to the therapeutic alliance (Gyani et al., 2015).

Despite the enormous effort made by the different organizations to transfer the information provided by the research to the different actors involved (e.g. through the publication of lists and online treatment guides), most of the advances in the field of psychological treatments are disseminated through scientific journals, which may mean that this information does not reach the applied professional sectors (Echeburúa et al., 2010). In this regard, in a survey of clinical psychologists, 32% of respondents never read scientific journals (Beutler et al., 1995) and would prefer to read materials that focus on how to practice a particular technique (Stewart & Chambless, 2007). A similar survey found that scientific publications were the least useful source of information for clinical practice, after accumulated clinical experience and professional consultation or supervision (Safran et al., 2011). These results have been replicated by several surveys (Stewart et al., 2012; Stewart et al., 2018), so we can say that most clinical psychologists rely on their clinical experience or that of their peers to make their treatment decisions, rather than on the results provided by science through scientific journals.

PROPOSALS FOR IMPROVING RCTS AND RESEARCH IN PSYCHOLOGICAL TREATMENTS

Among such a magnitude of contradictory data, criticism, and rigid and dogmatic positions, perhaps the only thing that can be appealed to is flexibility and humility to recognize the limitations of applied clinical psychology and try to adopt positions that can contribute to the development of our discipline from a scientific-experimental approach.

We believe that all approaches have valid assumptions, advantages, and limitations. The common effects of psychotherapies and variables based on the therapist-patient interaction and context are an undeniable reality and have their effect, albeit perhaps not sufficiently studied using experimental approaches. On the other hand, the approaches focused on techniques are necessary because they also fulfill an important function and are one of the most plausible alternatives available, although they can be improved.

Perhaps an integrationist position with science as a common denominator could support both the models based on the common aspects and those focused on the techniques, aiming for both positions to make an effort to adopt the scientific method as a vehicle to demonstrate their assumptions and to really turn them into evidence. If the best we have are the RCTs, and they have many limitations, we must also try to work on new approaches and methods that provide more precise elements to our constructs, variables, and measures.

Some proposals for improving RCTs and research on psychological treatments in general could take into account

the following recommendations:

1. Incorporate the perspective of the patients (Cuijpers, 2019), who should be consulted, involved, and informed much more in everything related to research and treatments involved with their health.
2. Try to get the samples to be truly representative. Promote external evaluations and blinding of RCT evaluators.
3. Try to study the common effects of psychotherapies better, especially those associated with the therapist.
4. Establish protocols to increase treatment adherence and follow-up.
5. Evaluate simple units of analysis that determine why a certain component of a treatment is effective and promote experimental clinical psychology and the translation of its results to the applied setting.
6. Incorporate psychophysiological measures (RDoC) and other variables, both quantitative and qualitative, objective and subjective (quality of life, subjective distress, etc.).
7. Promote lists or banks of evaluation resources that inform about the evidence of the instruments (reliability, validity).
8. Build practice-oriented research networks (Fernández-Álvarez et al., 2020).
9. With regard to the manualization of treatments, establish a flexible limit between specifying common and essential aspects of the techniques that are compatible with the individualization of the treatment.
10. An alternative to waiting list groups would be "befriending" groups, where the psychologist adopts a friendly and listening posture for a similar time as in the experimental group. Increasing the number of RCT arms and adding more experimental groups may increase the quality of trials.
11. Treatment validation should not only consider RCTs exclusively but also other types of studies and designs (single case, small-subject designs).
12. Recommend pre-registration of the study protocol (e.g., clinicaltrials.gov; anzctr.org.au) Allow data to be available in «open repositories» (e.g. www.osf.io), which would also benefit meta-analysis and transparency in general.
13. Enhance the role of external institutions to those developing the RCT to oversee monitoring and quality and facilitate collaborations between agencies and research centers to ensure increased power and adequate sample size.
14. Encourage the development and use of design and measurement standards (Ryan et al., 2019). For example:
 - ✓ CONSORT (Consolidated Standards of Reporting Trials). <http://www.consort-statement.org/>
 - ✓ PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses). <http://www.prisma-statement.org/>
 - ✓ EQUATOR (Enhancing the QUALity and Transparency of Health Research). <http://www.equator-network.org/toolkits/peer-reviewing-research/>

15. The scientific community to adopt the same criteria for grading the evidence. One of the most widely used is the GRADE system (Balshem et al., 2011) or the one recently proposed by Tolin and his team (Tolin 2020, Tolin et al., 2015).
16. Promote institutions that report on evidence and provide information that helps the clinician make a decision to improve treatment choice (e.g. Cochrane Collaboration, NICE; an example of good practice in Spain is Psicoevidencias; <https://www.psicoevidencias.es/>).

As for the role and relevance of scientific publications, Waters et al. (2020), propose the adoption of «quality publication practices» (QPP), which would involve researchers, clinicians, journals, health institutions, and scientific-professional organizations being aligned in order to increase the quality of publications on psychological treatments. Although the improvement of journal publication practices is an important objective, everything cannot be based exclusively on scientific articles. Monographs, treatment guides, clinical practice guides, and updated websites should take on a greater role in the dissemination of psychological treatments.

CONCLUSIONS

One of the most important keys to the subject dealt with in this article is related to the education and information that citizens in general, and professionals in particular, have, including students, teachers, and other groups such as professional associations. How can they know which treatments are effective? What and how do we teach in our universities?

In this sense, we consider it necessary that university training programs (undergraduate and postgraduate), as well as those that provide professional accreditation or qualifications (Master's in General Health Psychology or P.I.R.), include among their contents not only how to perform certain therapies step by step, but how and where to find information on EBTs that will be useful to the student in their professional future and how to distinguish between pseudo-therapies and treatments with different levels of empirical support. Consequently, good training should allow the psychologist to keep up to date with advances in psychological treatments, and the benefits that continuing education would have for patients should be promoted. Although they have their limitations, clinical guidelines, checklists, and reviews for assessing the extent to which a treatment is effective are a necessary and recommended measure to keep clinical students, policy makers, and users informed and updated.

As far as the general population is concerned, it is necessary to increase their knowledge of psychological treatments that are based on evidence. To this end, the State, the universities, and professional associations should facilitate and contribute to the dissemination of scientific culture in the field of psychological treatments. The citizen should also be informed about pseudo-therapies and their possible effects, including their harmlessness. If this type of activity is offered to the

public, its description or recommendation should include messages similar to those that inform of the side effects, adverse symptoms, or contraindications of medicines: «*This type of intervention has no proven scientific evidence, so we cannot say that it is effective in resolving your reason for consultation. Part of its effect and possible well-being could be due to the placebo effect (an activity that, while lacking therapeutic action in itself, produces a favorable effect if the person receiving it is convinced that it really has such an action) and other circumstances such as your capacity for suggestion, dependence, desperation, the passage of time, etc. You are free to use it, but we suggest that first you ask your family doctor and other professionals—both independent ones and members of associations—and inform yourself well before deciding whether to put all your hopes and resources into such a procedure.*

In the field of Spanish psychology, perhaps we abuse a model based on indoctrination, trying to inculcate certain ideas or beliefs and fiercely attacking those that are contrary to our positions. This should lead us to consider whether on the contrary it would be better to migrate to a model based on education, which would imply developing in our students, professionals, and citizens the capacity for analysis and reflective criticism, exposing in a clear and accessible way different points of view that would provide all the tools to make a free decision, as objective as possible and with foundation, independent of manipulations and indoctrinations.

In conclusion, not only do psychoanalysis and humanistic psychology have problems in demonstrating the effectiveness of their actions. Scientific models also have important difficulties and many challenges ahead. Perhaps the moment is approaching when, rather than criticizing each other, each individual will try to look at him or herself, with a certain dose of self-criticism, and do everything possible to contribute to the improvement of psychology as a scientific discipline.

CONFLICT OF INTEREST

There is no conflict of interest.

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