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The Myth of Evidence-Based Practice: Towards Evidence-Informed Practice

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Abstract

In this paper, we analyse the five steps of the evidence-based practice (EBP) model and argue that this model has serious limitations, both theoretical and practical. We argue that the relationship between evidence and practice cannot be that of supplying a basis, at least not if that notion is understood in any strict logical or methodological sense. Other factors have to be taken account of in addition to evidence and their relation to the evidence has to be explained. Following others, we advocate a more comprehensive view of practice as informed by evidence and theory. Evidence-informed practice (EIP) should be understood as excluding non-scientific prejudices and superstitions, but also as leaving ample room for clinical experience as well as the constructive and imaginative judgements of practitioners and clients who are in constant interaction and dialogue with one another. Under the EIP model, there is no need for the five-steps procedure of the EBP model, but only that practitioners will become knowledgeable of a wide rang of sources—empirical studies, case studies and clinical insights—and use them in creative ways throughout the intervention process.

Keywords: Evidence-based practice, evidence-informed practice, evaluation, clinical practice

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Introduction

Following the movement towards evidence-based medicine in medical practice (Sackett *et al.*, 1997, 2000), the idea of evidence-based practice (EBP) has gained prominence in the helping professions (Chambless and Ollendick, 2001; Gambrill, 2006, 2007; Gibbs and Gambrill, 2002; Gibbs, 2003; Gray *et al.*, 2009; McCracken and Marsh, 2007; McNeill, 2006; Proctor and Rosen, 2003). The idea is that the activities of social practitioners should, as a matter of both professional and ethical responsibility, be closely guided by the best empirical findings in their fields. It is often claimed that such an orientation enhances effectiveness, efficiency and accountability, yields better intervention outcomes, promotes transparency and supports co-operation and knowledge sharing between practitioners and clients (Gambrill, 2007; Shlonsky and Stern, 2007). Practitioners need not, of course, conduct research or gather the evidence themselves. They can obtain empirical evidence about the efficiency of diverse interventions for various psycho-social problems by electronic searches of existing databases or other bibliographic devices and adapt them to their clients' specific contexts and circumstances.

The original definition of EBP is taken from the medical profession: '... the conscientious, explicit and judicious use of current evidence in making decisions about care of individual patients' (Sackett *et al.*, 1997, p. 71). Applied to the helping professions, a common definition runs as follows: '... the conscientious, explicit and judicious use of current best evidence in making decisions regarding the welfare of service-users and carers' (Webb, 2001, p. 61). With this, of course, it is hard to quarrel. Yet, most writers will agree that EBP is not just a matter of reviewing empirical evidence and choosing effective interventions for clients, but also an entire professional practice that prioritises the selection of the 'best' evidence as quoted above, and the application of that evidence in particular cases: 'EBP is a process that requires practitioners to identify, evaluate, and apply evidence pertaining to a client's problem to subsequent practice decisions' (Jenson, 2007, p. 571).

EBP has had its share of critics. Rubin (2007) summarises four disadvantages of EBP that have been pointed out in the literature, and defends the model against them: (i) it is too mechanistic and ignores the unique characteristics of both clients and practitioners, (ii) it is not clear enough, ignores research flaws and makes exaggerated claims about the evidence at hand, (iii) it is hard to implement due to resource limitations such as time, training and supervision, and (iv) due to the nature of the scientific process, the empirical findings are outdated by the time they appear in print (for further arguments and counter-arguments, see Carr, 2009; Gibbs and Gambrill, 2002; Gray *et al.*, 2009; Howe, 2004; McNeill, 2006; Norcross *et al.*, 2006; Sheldon, 2001; Webb, 2001). Advocates of EBP argue that

these problems are manageable within the framework of EBP by means of various modifications and adaptations. Indeed, some proponents of EBP, while being critical of 'positivist' approaches to EBP, advocate a more encompassing, interpretive view of evidence that includes qualitative research and clinical evidence as well as randomised controlled trials (RCTs) and similarly empirical studies (for a review, see Gray *et al.*, 2009). By contrast, we wish to argue that the problems with EBP are even more fundamental and could not be handled by just expanding the hierarchy of evidence. They spring from two apparent misconceptions regarding the possible relation between practice and evidence, and they cannot easily be corrected by such modifications and adjustments. More specifically, we claim that the relationship between evidence and practice cannot be that of supplying an adequate basis, as suggested by the phrase 'evidence-*based* practice', at least not if that notion is understood in any strict logical or methodological sense.

Evidence does, of course, have a role to play in social practice, in addition to its role in social science. However, its role in either of these spheres, as recognised by EBP advocates, is neither determinative nor exclusive. In fact, practice is as much an art as it is a science, and as much a dialogue as it is an application of empirical findings to clients' unique characteristics and context. The wisdom appropriate to it is practical wisdom rather than that of scientific rationality. With many others (e.g. Chalmers, 2003, 2005; Culyer and Lomas, 2006; Epstein, 2009; McSherry *et al.*, 2002; Pawson *et al.*, 2003; Wolpert *et al.*, 2006), we seek to defend a comprehensive conception of practice as informed by but not adequately based on evidence. While excluding entirely baseless interventions or interventions rooted in prejudice and superstition, evidence-informed practice (EIP) should be understood as leaving ample room for the constructive and imaginative judgement and knowledge of practitioners and clients who must be in constant interaction and dialogue with one another for most interventions to succeed. In particular, we argue that research findings should not override, or take precedence over, clinical experience and clients' wishes, values and knowledge. Rather, empirical evidence is better regarded as one component in the mutual and constantly changing journey of client and practitioner. Under the EIP model, there is no need for the five-steps procedure recommended by EBP or any other fixed protocol. Rather, a wide range of information sources, empirical findings, case studies, clinical narratives and experiences are to be used in a creative and discriminating way throughout the intervention process.

In making this suggestion, we are aware of the fact that advocates of EBP often reject the charge of 'determinism' levelled against them and point out that the EBP model leaves wide room for client-oriented adjustments and for the clinical judgements of practitioners. Indeed, in a recent article, Gambrill (2007), one of the founders of the EBP model in the social work profession, writes 'EBP describes a process … designed to help

practitioners to link evidentiary, ethical, and application issues. It requires considerable research findings related to important decisions and sharing what is found with clients (including nothing) within a supportive, caring dialogue informed by practice theory' (Gambrill, 2007, p. 555). It is interesting to note that in the context of expanding EBP to include 'ethical and application issues', Gambrill (2007) shifts to describing the model in terms of evidence-informed practice. Indeed, the title of her paper is 'Evidence-informed professional education'. We agree with much of what she says regarding the ethical obligations of practitioners to clients, and particularly with regard to transparency and informed consent. However, these ethical issues do not pertain to the more specific question regarding the basis of practice and the usefulness of the five-steps procedure. The terms 'based' and 'informed' do not denote the same relationship between evidence and practice and should not be used interchangeably.

Shlonsky and Stern (2007) state that 'evidence is but one (albeit key) element in the model . . . at its core, EBP embraces the complexity of experiences, circumstances, and tendencies of each client' (Shlonsky and Stern, 2007, p. 603). However, given that evidence is not sufficient for practice decisions, what precisely is its role and what is the point of a five-step procedure that appears to give it pride of place? How, in particular, should the term 'based' in the phrase 'evidence-*based* practice' be interpreted? Clearly, empirical evidence is relevant for practice in various ways, but the idea that practice can be primarily 'based' on evidence is a much too narrow understanding of this relevance. In short, while proponents of EBP do not advocate any assimilation of EBP to 'evidence-determined practice' and do not require practice to be based exclusively on evidence, no adequate account is given of the relationship between the evidence and other factors that go into the selection and the justification of practice. Such an account, however, would be required to justify the priority given to current empirical evidence as the key factor in practice and the five-step procedure that gives it such a decisive role. Indeed, if practice is based on other factors as well, some account should be given of these alternative bases and the methods that allow them to work together with the evidence and form an integrative whole.

As will become clear, we wish to direct critical attention to EBP's implicit methodological claim, namely the claim that practice interventions can be adequately justified with reference to current best evidence and that, consequently, practice should be oriented towards searching, finding and applying such evidence. In addition, EBP is often supported by practical rather than methodological considerations, such as the need to prioritise 'best practices' in making public policy, the need to satisfy insurance requirements and guidelines or the need to practice social interventions 'defensively' so as to pre-empt future litigation. These matters will not be discussed in this paper. Suffice to say that such practical justifications of EBP presuppose the methodological claims on which we are focusing.

If it turns out, as we claim, that 'current best evidence' cannot be decisive of practice and is not sufficient for practice interventions, then these practical considerations will appear weaker than they seem to be in light of EBP's promise of the 'best'.

The limited role of evidence

EBP encourages social practitioners to conform to a five-step procedure, described below (Gibbs and Gambrill, 2002; Shlonsky and Stern, 2007; Straus *et al.*, 2005). As we understand it, EBP attempts to employ scientific and technological rationality in an area in which such rationality traditionally competes with more practical forms of wisdom and it justifies this assimilation of practical to scientific rationality on both ethical and instrumental grounds. Only by basing practice on evidence, so it is claimed, can the practitioner guarantee the best available treatment to her clients, as is her professional duty. We argue, however, that practice is doubly removed from evidence and no practitioner can safely ignore the gaps thus created.

First, in so far as practice is guided by scientific theory, as EBP implies it should be, it is removed from empirical evidence in the way that all such theories are removed from evidence. Scientific theory, in both natural and social sciences, is a large inter-connected body of diverse elements: hypotheses, findings, equations, experimental conditions and rules of inference. Scientific methodologists have shown that only the larger body of such theoretical instruments is sensitive to empirical evidence, not each separate element on its own. When empirical evidence conflicts with theoretical expectations, as in a failed prediction, it is the whole body of knowledge that is up for grabs, or, at any rate, large chunks of it, but the evidence doesn't specify in which way this wide body of knowledge is to be corrected. There always are different ways of doing just that and the theoretical scientist has much elbow room to manoeuvre within a body of knowledge that is not governed further by the evidence. The logical gap between theory and evidence has to be filled by the autonomous decisions of the scientist, guided by the precepts of her scientific culture and her own theoretical imagination. No amount of evidence can replace these. The point is made by many philosophers and historians of science. Kuhn (1962), for example, writes the following in his influential *Structure of Scientific Revolutions*:

> Observation and experience can and must drastically restrict the range of admissible scientific belief, else there would be no science. But they cannot alone determine a particular body of such belief. An apparently arbitrary element, compounded of personal and historical accident, is always a formative ingredient of the beliefs espoused by a given scientific community at a given time (Kuhn, 1962, p. 4).

Similarly, Quine (1953), a leading twentieth-century philosopher of science, points out that evidence pertains to theory only through the mediation of the whole of science, which gives the theorist much 'latitude of choice' in adapting any particular theory to the testimony of the senses. Quine concludes his seminal paper, 'Two dogmas of empiricism', with the following observations:

> The totality of our so called knowledge or beliefs . . . is a man made fabric which impinges on experience only along the edges . . .. A conflict with experience at the periphery occasions readjustments in the interior of the field . . .. (The) total field is so under-determined by its boundary conditions, experience, that there is much latitude of choice as to what statements to reevaluate in the light of any single contrary experience. No particular experiences are linked with any particular statements in the interior of the field, except indirectly through considerations of equilibrium affecting the field as a whole (Quine, 1953, pp. 42–3).

The social sciences are similarly affected by the dependence of empirical observations on the position of the observer. In 'Positional objectivity', Sen (2002) writes the following:

> What we can observe depends on our position vis-à-vis the objects of observation. What we decide to believe is influenced by what we observe. How we decide to act relates to our beliefs. Positionally dependent observations, beliefs, and actions are central to our knowledge and practical reason. The nature of objectivity in epistemology, decision theory, and ethics has to take adequate note of the parametric dependence of observation and inference on the position of the observer (Sen, 2002, p. 463).

These are but three examples of a very wide consensus among recent methodologists and philosophers of science. All three of these influential writers reject what may be called the positivist conception of scientific rationality, namely a conception of science as unilaterally based on empirical evidence and, in their several ways, they show the dependence of evidence and evidentiary relations in science on prior human belief and activity, on cultural and historical development and on various practical concerns. It is not that evidence does not play a role in establishing scientific theories. It does, and its role is crucial. But it can only play this role within larger bodies of human belief and action that leave room, indeed, necessitate, independent judgement and autonomous conceptual activity on the part of the scientific practitioner. Nothing constitutes evidence for anything at all except in relation to beliefs, concepts and practices—what Sen calls positional parameters that have a contingent history of development and that could have developed very differently. This degree of relativity should not, however, be confused with cultural or other forms of relativism; the claim is not that 'anything goes', depending only on cultural acceptance, but rather that what does 'go', namely what is accepted as received and 'given', must be filtered through and placed in equilibrium with reasonable conceptual activity

on the part of scientists and researchers. The consequences of these philosophical and methodological insights are far-reaching.

The underlying idea of all such positions, however else they may differ amongst themselves, is that even scientific theory necessarily contains more information than does its evidence. Inductive inference is never sufficient to decide between conflicting projections, equally compatible with all current observations, and hypothetical-deductive testing is never sufficient to decide between conflicting hypotheses, equally compatible with even the totality of available evidence. Even at its most austere, scientific theory is underdetermined by the totality of available evidence. Consequently, there is a human factor in its construction that cannot be eliminated. As William James once put it, 'the trail of the human serpent is, thus, over everything' (James, 1991, p. 31). This human factor is variously understood by various historians and philosophers, but it would be extremely implausible to deny it altogether.

We believe that EBP minimises or marginalises this human factor. For evidence to be adequate as a basis for practice, evidence has to be adequate as a basis for theory, since practice is and ought to be directed by theory, especially social-scientific theory. However, evidence-based *science* is an inductivist myth, long refuted by philosophers and historians of science. Theories cannot be reduced to their evidential basis and the contribution of the practising scientist—a human being steeped in the evolving culture and concepts of her day—should not be marginalised. Evidence-based science would be a science shorn of its most distinctive feature, namely its internal and external coherence as a way of organising experience into an understandable picture that fits into a larger circle of ideas that each scientific community inherits from its predecessors and from its culture. Without suggesting such broadly cohering pictures, scientific theory cannot be of any use to practitioners of any kind—social, medical, technological or what have you. A mere collation of findings cannot be applied to anything that would be of use; indeed, nothing would even constitute an empirical finding unless there also was a theory into which it fits, or fails to fit, and the theory in question is not decided by the evidence alone and is not based on it in isolation. Theorising in science is a creative art, not a calculation or a passive observation. The idea of evidence-*based* practice is an apparent misconception of the role of evidence in science, and particularly of its dependence on human, creative and historically evolving conceptual frameworks. There is no reason to believe that once we come down to the practitioner, this freedom of imaginative movement diminishes. If anything, it increases.

The point is not restricted to fundamental scientific theories of the kind alluded to by Kuhn or Quine. Much the same holds regarding the more limited theories that social scientists and practitioners are likely to appeal to. These theories are mostly tested in controlled statistical studies of various social and behavioural phenomena, including studies regarding

the relative rates of success of various interventions. Indeed, these are the studies favoured by EBP advocates as most reliable and placed at the top of the evidence hierarchy. The conclusions of such statistical studies pertain to large populations and to the relative frequency, or probability, of certain properties and relations. However, the application of such conclusions to particular cases of the kind confronting social practitioners depends on judgements of similarity or dissimilarity between the particularities at hand and the features sampled in the study being considered. Where these judgements of similarity are unclear, or open to doubt, it is rationally open to the practitioner to choose between accepting the similarity to be strong enough, thereby applying the general, statistically based conclusions of the study (and hoping for the best), or, alternatively, to judge the case relevantly dissimilar and look for further differentiating factors and an alternative account of the case. At any rate, the evidence will not, by itself, decide which way to go in such cases and no electronic search can replace the seasoned practitioner in her decision making.

Second, in so far as practice is goal-oriented and goal setting is dependent on values, practice is removed from evidence in the way all evaluation is removed from and not based on evidence. Indeed, values cannot be determined by purely factual evidence, where, by 'purely factual', one has to mean a description of the evidence from which all evaluative language has already been expunged. The point is familiar already from the time of Hume: an 'ought' cannot be derived from pure statements of 'is'. Consider the following:

> In every system of morality, which I have hitherto met with, I have always remarked, that the author proceeds for some time in the ordinary way of reasoning, and establishes the being of God, or makes observations concerning human affairs; when of a sudden I am surprised to find, that instead of the usual copulations of propositions, *is*, and *is not*, I meet with no proposition that is not connected with an *ought*, or an *ought not*. This change is imperceptible; but is, however, of the last consequence. For as this *ought*, or *ought not*, expresses some new relation or affirmation, it is necessary that it should be observed and explained; and at the same time that a reason should be given, for what seems altogether inconceivable, how this new relation can be a deduction from others, which are entirely different from it (Hume, 1978, p. 469).

Sharply distinguishing between facts and values, the former being expressed by 'is' propositions, the latter by 'ought' propositions, Hume points out the existence of a 'logical gap' in arguments whose premises are purely of the former kind but whose conclusions are of the latter. The conclusions in this case, much like the general conclusions favoured by inductivists, contain more information than do the premises and cannot therefore be derived from them. Apparently, EBP founders on this humean point, as it did in relation to theory. For evidence to be adequate as a basis for practice, it has to be adequate as a basis for values, since practice, being

goal-oriented, is inseparable from values. But no evidence can perform this miracle.

EBP does direct practitioners to take values into consideration in applying empirical findings to practice, but it is less clear what role these values have in the intervention process and what precisely their status is. What, for example, should be done when the client's values disagree with the intervention selected on the basis of the evidence? Should the practitioner attempt to persuade the client of the benefits of the intervention in question? Or should she accept the client's preferences and move on to suggest a different intervention that may not be indicated by the current best evidence? If the latter, then, clearly, evidence must be integrated with other factors, such as values, in justifying or selecting treatment interventions. But the EBP model has to provide some theoretical account of these other factors and how they are to be integrated with the evidence for these purposes. Once integration has been taken account of, it might be asked whether the term 'evidence-based practice' is still justified. By contrast, under the EIP model, when no claim to the priority of evidence is made, the existence of other factors, while complicating the intervention process, does not constitute a theoretical question to be answered. Practically, the practitioner will grant priority to the client's preferences and values, and will use the evidence as one factor to be considered.

Of course, contrary to Hume's empiricism, facts and values need not be so sharply divided. There need be no such dichotomy. Indeed, contemporary theorists have long disputed this division. If we take evaluative terms such as 'personality disorder' or 'dysfunctional' to use terms practitioners might be employing, we find that they are, at one and the same time, both descriptive and evaluative. Indeed, apart from pure evaluative terms like 'good' and 'evil', or 'right' and 'wrong', most of our evaluative terms are of the former kind, namely 'thick' evaluative terms that contain descriptive as well as evaluative components, but within which these components cannot be neatly factorised. Where, for example, does description end and evaluation begin in 'dysfunctional'? Of course, there is no telling. Hence, evaluative-cum-descriptive conclusions may after all be derived from descriptive-cum-evaluative premises. Evidence, so conceived, may be relevant to practice after all. But so conceived, evidence itself is not 'based on evidence', as more narrowly conceived. It is not decided by pure observation, or a hierarchy of empirical sources. Rather, it is intertwined with evaluations of various kinds, epistemic evaluations in the sciences (including the social sciences), personal, cultural and other evaluations in practice and social intervention (for 'thick' and 'thin' evaluations, and for the failure of the fact/value dichotomy, see Putnam, 2002).

The parametric dependence of evidence on theory and the similar dependence of both evidence and theory on values and interpretations establish not only that evidence, as narrowly conceived, cannot be wholly adequate for theory or practice, but also what role evidence does play in both

theory and practice. For, of course, it does play a role. That role is not to decide the outcome, whether of theory or of practice, as if from the outside, and prior to any human intervention, but rather to enter into an equilibrium with a host of other claims and considerations. It is a constraint on practice, not an adequate basis of it, and both rational inquiry and rational practice should take account of it as such. To do so, the scientist and the practitioner should bring it into equilibrium with a large totality of considered judgements, both descriptive and evaluative. The equilibrium will be logically coherent—that is to say, it will exclude inconsistencies and other logical problems. It will also be reasonable—that is to say, it will exclude baseless prejudices that do not cohere with the larger body of enlightened scientific belief. But it will not be unique; different points of equilibrium could be reached upon the same evidence, and it will not be, in any pure sense, evidence-based. In the context of social intervention, such a holistic equilibrium will lend itself to evidence-informed practice, where the evidence will be considered along with a host of other considerations taken in equilibrium by an experienced and imaginative practitioner, and will not necessarily have a higher status in the intervention process.

Thus, the wise practitioner, while taking account of evidence, will also rely on other factors, including her own judgement, as well as on her client's perspectives, regarding the appropriate goal to reach, the acceptable means to employ and the ways these could be adjusted as intervention proceeds. No amount of empirical evidence, narrowly conceived, could supplant the practitioner's role or minimise her independence. As noted earlier, supporters of EBP strongly argue that, in fact, their model does take contextual factors into account and that EBP is compatible with adapting specific interventions to specific circumstances that include both the client's preferences and the practitioner's expertise. For example, Shlonsky and Stern (2007) write: 'EBP is not the job of some technician. It takes a great deal of clinical skills to successfully integrate current best evidence with client preferences/actions, clinical state/circumstances, and the practice context' (Shlonsky and Stern, 2007, pp. 607–8). But, if practice is to be adapted to specific circumstances, it cannot, at the same time, be based on theoretically obtained evidence, nor does the evidence have any priority in comparison with the experience and values of the practitioner and the client. As we shall see below, the five-step procedure, with its emphasis on the appeal to the 'current best evidence', does not adequately present the equilibrium that has to be reached between the various considerations. Interestingly, Shlonsky and Stern also point out that this stage of integrating evidence to practice is 'the hardest part of the endeavor and is also the one we know the least about' (Shlonsky and Stern, 2007, p. 608). The present authors do not object to the use of empirically obtained evidence in practice and social intervention. On the contrary, we wish to encourage such use. All we claim is that the appeal to evidence in such practice cannot be understood as decisive. Evidence must be understood as

informing practice and practice cannot be understood as based just on the evidence that informs it, or even primarily on it.

Practice (potentially) misdirected: the five steps of EBP

Let us now look at the ways in which EBP's methodological guidelines regarding the role of evidence vis-à-vis practice may lead to practical dead-ends. Advocates of EBP often describe a five-step process that practitioners are encouraged to go through (Gambrill, 2007; Jenson, 2007; Straus *et al.*, 2005). Let us turn our attention to each one of these steps in turn.

I: Formulating a practice question

Gibbs and Gambrill (2002) specify this requirement in the following terms: 'Convert information needs into answerable questions. Such questions are stated specifically enough to guide a computer search, concern the client's welfare, relate to a problem that has some chance of a solution, and, ideally, formed in collaboration with the client. A well-formed question describes the client, alternate course(s) of action, and intended result' (Gibbs and Gambrill, 2002, pp. 453–4).

EBP, as quoted above, assigns the task of posing the intervention questions to the practitioner, only ideally in collaboration with the client. The client's problem is so much information that has to be converted in such a way that it concerns the client's welfare among other things, but not in the client's own terms. Some social interventions will certainly be of this nature. Often, though, the questions to be addressed by social practitioners will not be initially posed by themselves. In a typical case, there will be a presenting problem, initially formulated by a client who comes or was sent to seek professional help. Sometimes, the presenting problem could be reformulated so as to generate empirically answerable questions and the client would agree that the answerable question is close enough to her own problem and would thereby become willing to pursue the course of action suggested by the practitioner. But this need not be the case. Sometimes, there will be no available evidence, or even no known research method by which the presenting problem could be addressed. The state of scientific knowledge regarding psycho-social phenomena is not far enough advanced to underlie any assurance that an empirically answerable question will be available. At other times, there may well be an answerable question closely related to the presenting problem, but the client may refuse to acknowledge it as such. She may insist on formulating the question in her own terms. Reformulating the question so as to fit canons of scientific research would not address her concerns.

What, then, is the practitioner supposed to do in cases like these? Let us first look at cases in which current scientific research does not provide an answer to the initial presenting problem. It is crucial here to remember that the problem remains what it is and cannot be reformulated away in the interests of current research. Cases such as these are common and the options seem to be one of two. The evidence-centred option would be to insist on replacing the presenting problem with an empirically answerable question, even in cases in which it is recognised that the initial question is too far-removed from current evidence to be so treated. The client-centred option is to acknowledge that the presenting problem is a genuine problem despite the insufficiency of current research in supplying an answer to it, namely to recognise limits to the incorporation of evidence in practice. Insistence on EBP may lead practitioners to prefer the former route or not even to consider the latter, thereby finding themselves to be in a familiar dead-end, namely that of entering into a battle of wills with their clients over the problem to be treated and losing, in consequence, their ability to provide assistance to them. In other cases, an empirically answerable question may suggest itself to the practitioner, but it is a question that would not be acknowledged by the client as corresponding to her own problem. What then? Again, the evidence-centred option is to engage in persuasion, and perhaps such persuasion can succeed. But persuasion is an exercise of power and a power struggle between the practitioner and the client over the terms of their mutual engagement could be rather ruinous. A seasoned practitioner would know how to avoid such struggles and engage in the silent art of listening to the client. In this, research and evidence may be of little help.

Let us mention another problem with this first step. Practitioners are familiar with situations in which a client's presenting problem undergoes changes as the intervention proceeds, both between meetings and sometimes within a single meeting. Even at one particular meeting, the client may, for instance, initially speak about economic distress and than move to talk about marital conflicts. We may attempt to negotiate a clear-cut decision about the topic of our conversation, but here, again, it is quite uncertain that this is in the best interests of the client. Often, allowing the client to move from one issue to another, both within and between meetings, is the best strategy—a manoeuvre that seems impossible using the EBP model. By contrast, under the EIP model, clients may shift problems and goals according to their needs and the informed practitioner will select what to use and when, according to circumstances.

In sum, while, in research, one must define an empirically answerable problem to be studied, this task is often impossible in the area of counselling. There may be no such empirically answerable problem that's relevant to the client and even if we find one, it may not be accepted by the client as her own. Furthermore, the problem that is so accepted by the client may shift and change within and between sessions.

II and III: Searching for the best evidence and appraising the evidence thus gathered

The next step is the search for evidence. It is assumed that practitioners are not themselves researchers, so the search in question is secondary in nature: 'Track down with maximum efficiency the best evidence with which to answer the question. (This requires electronic access to bibliographic databases and skill in searching them efficiently and quickly enough to guide practice)' (Gibbs and Gambrill, 2002, p. 454). The third step, appraising the evidence, is separated from the gathering of the evidence: 'Critically appraise the evidence for its validity and usefulness. (This entails applying a hierarchy of evidence relevant to several question/evidence types.)' (Gibbs and Gambrill, 2002, p. 454).

What, then, could be wrong with bibliographic databases and electronic searches? These surely are efficient tools in spreading information around, and skilful, updated practitioners could do much worse than using them with efficiency and speed. But tacit claims are being made even in this innocuous-seeming specification that may be misleading. Two terms, in particular, should not escape notice: 'best evidence' and 'guide practice'. In conjunction, they may give the wrong picture.

First, what is the 'best evidence' and how is it to be appraised? There are superficial answers that sometimes can be adequate. The best evidence is the evidence gathered by the best researchers, in the best universities, or the most prestigious research institutions, supported by the most discriminating funding agencies, and so forth. Here, tacitly, the appeal to what is best is an appeal to authority and who are we, social practitioners, to question the credentials, the expertise, the institutionalised power of current science and its favoured structures and hierarchies? Indeed, social practitioners will not normally tend to question all this, nor will they have the competence to do so.

Nevertheless, this is still an authoritarian, not an enlightened, use of 'best', as it appears in 'best evidence'. As such, it may mislead and intimidate a practitioner as much as it may assist her. When the problems to be handled by the practitioner are at any level of depth, the authority of big science may not be helpful, if only because scientific paradigms diverge and wherever important questions arise, little unanimity is to be expected among scientists, research groups or university systems. If a practitioner has to make decisions on the basis of assumptions regarding the aetiology of a psychological symptom (e.g. anorexia) or the roots of a social disorder (intra-family violence) or the causes of a global crisis (human trafficking)—theoretical issues that are at the basis of developing psychological and social interventions—she may find little consensus in the best evidence she gathers on such authoritarian assumptions. She will have to choose between different authorities, all belonging to the circle of the best, but

what would be the best choice in that case? The evidence can hardly make the choice for her and a wise, selective, judgement on her part will be inevitable.

Here, we come to a different use of 'best'—the normative use, which is the use tacitly assumed by EBP advocates in their aspirations to professional and ethical rectitude and transparency. In this sense, the best evidence is the evidence most likely to be true, namely the theories most likely to be true on the empirical evidence available. In the more limited sphere of evidence-based intervention, the best evidence would be the intervention methods most likely to be successful, as determined by controlled experimental and quasi-experimental studies or a series of single-case designs. Evidence from other sources, such as qualitative and case studies, while not dismissed, is ranked lower in the hierarchy of evidential validity (for arguments and counterarguments about evidence hierarchy, see Carr, 2009; Gray *et al.*, 2009). However, on this understanding of best evidence, EBP imposes upon practitioners a task they are unlikely to be equipped for. Surely, most practitioners will have come to their field of practice after some training that involves limited exposure to past research and to the big theories in their field, but no such training offers competence in evaluating current research. Being relatively ill-equipped for the task, the practitioner is likely to fall back again on an authoritarian evaluation, looking not at the methodological credentials of the evidence captured by her electronic searches, but rather at the institutional standing of the researchers. Most likely, they will continue to use the theories, doctrines and practices that they have been trained to use, and will trust the larger community to filter through to them the more recent findings in social science. That process of filtering, however, is unlikely to yield any unanimity over the question of what evidence is 'best'.

But let us, for a moment, abandon the ordinary practitioner and focus instead on an ideal practitioner—a practitioner unhindered by practical limits in training, learning and knowledge gathering. How would such a practitioner 'track down with maximum efficiency the best evidence with which to answer the question'? And how would that evidence 'guide' her in practice? Here, we are no longer talking of the best evidence in the authoritarian sense, but only in the normative and enlightened sense. Suppose, then, our ideal practitioner is addressing a deep psychological or social disorder and seeks the best evidence upon which to base an intervention. Is she likely to succeed? The answer is that she is not, because what is best is not independent of her purposes as a practitioner and of the client's perspectives. By itself, even the most valid evidence will not be sufficient to decide what the best intervention is for the case at hand.

Suppose, in particular, meta-analysis shows that a certain intervention has the highest rates of success in cases of a certain kind. Does this show that the 'best evidence' supports that type of intervention for any particular case? Hardly so. As noted, it only shows it on further conditions, such as

that the particular case at hand is relevantly similar to the population sampled in the controlled study favouring that intervention, or that it is more so than it is relevantly dissimilar. But that further assumption may well be questioned, particularly if the practitioner has further information about the case, as she is bound to have. If, besides relevant similarities, there are also relevant dissimilarities, the practitioner may well be justified in climbing 'down' the hierarchy of better and worse evidence sources to a different study, or even to reliance on uncontrolled clinical experience. What is 'best' cannot be decided just by the evidence, prior to the judgement, expertise, clinical experience of the practitioner that comes in the form of assessing the relevance of the evidence and the degree of similarity of the case at hand.

Let us focus now on the other term used above, namely that of 'guiding practice'. From what has been said, it is clear that theory guides practice only through the mediation of the practitioner's judgements, clinical experiences, purposes and imaginative viewpoints. The theory–practice relation is more complex than imagined in the narrow model of EBP. For no theory guides practice unilaterally. Rather, to guide practice, theory has to come into equilibrium with it, as well as with its other components and factors. What this means is that the practitioner will fit the practice to the evidence only to the extent that she can view the evidence through the lens of her practice. The practitioner, no less than the theoretician, will have to be selective in her choice of theory and will have to take her own practice as a criterion for the theory as much as she takes the theory as an authority for the practice. A practitioner, like a theorist, is first and foremost a creative and imaginative agent. There will be no algorithm guiding her activity.

An experienced practitioner will have to make a judgement regarding what is applicable to her particular case, what is irrelevant or not, how the different interventions implied by the evidence could be integrated and what relative weight should be assigned to each of them in the understanding and treatment of the client. Moreover, her understanding of what the client is telling her may shift not only from session to session, but also from one moment to the next within the session. Since the focus must be on the client, her intervention will shift accordingly. Supporters of EBP argue that their model does direct practitioners to use their clinical skills and judgements in appraising evidence and selecting what is appropriate for their clients. However, they do not take note of the equilibrium that should be reached between the evidence and these various factors. By contrast, EIP points to the role of such equilibrium in science as well as in practice. Under EIP, evidence is just one factor in establishing practice that provides neither an adequate basis for it nor a fixed protocol for action. For each case, and for each moment, a new integration is created.

The client, not the best evidence, is at the centre and since the client is shifting her ground as the therapeutic intervention proceeds, no single

protocol can be applied. Under EBP, once an intervention is selected as best, the whole protocol of the intervention has to be applied, or at least a great chunk of it. In research, we are committed to strict protocols in order to keep our variables controlled. In treatment, however, the situation is dynamic. Our interest is not in controlled variables, but in our clients. Our use of the evidence in treatment must be attuned to the client and therefore flexible and dynamic.

In sum, neither the best evidence nor the guiding of practice can be decided in the way envisaged by EBP. Both these steps require a dynamic equilibrium between evidence and other factors, theoretical as well as practical, since both evidence gathering and therapeutic activities are dynamic in nature. The role of such equilibrium is not adequately accounted for by EBP. In EBP, what is 'best' and what should guide practice is decided by a theoretical hierarchy of evidence and applied thereafter by a fixed protocol. Under EIP, evidence is only one factor in the counselling process to be integrated within shifting therapeutic situations.

IV: Applying the results

The fourth step in the model is described as follows: 'Apply the results of this appraisal to policy/practice decisions. This requires deciding whether the evidence applies to the decision at hand based on whether a client is similar enough to those studies, access to interventions described in the literature, weighing anticipated outcomes relative to concerns such as number needed to treat, practical matters, and client's preferences' (Gibbs and Gambrill, 2002, p. 454).

Notice the internal conflict in this description. The logic of 'apply' is asymmetric. To apply is to go in one direction, from the general to the particular, or from the theoretical to the practical. Strictly speaking, it is not the evidence that applies to intervention decisions. Rather, it is the theory that the evidence supports. The evidence applies only indirectly, through the theory. Indeed, the neglect of theory and more specifically of the evidence–theory gap is, in our opinion, one of the major weaknesses of EBP. However, the steps here portrayed as prior to the application, namely the decision whether 'the client is similar enough to those studies', the gaining of 'access to interventions described in the literature', the 'weighing of anticipated outcomes', all go in an opposite direction, namely from the particular and the practical to the general and the theoretical. And what are these evaluations to be based on? Clearly, the evidence supporting the theory to be applied is not going to determine these limits to its own application. What is the practitioner to appeal to in these evaluations? The answer is that in the final analysis, the practitioner is to rely not merely on the evidence, but on pre-theoretical judgements regarding the matters specified, namely the similarity or dissimilarity of the case at

hand to those described in the literature, the expected outcomes given various dimensions of dissimilarity and a host of other considerations regarding the client and her practical affairs. These judgements are far removed from what EBP calls 'evidence', namely the results of empirical research. Such judgements are unavoidably decided by clinical experience, practical expertise and human imagination that the practitioner employs in the process of intervention. Supporters of the EBP model are practical enough to see all these necessities. What they apparently don't see is that these necessities undermine any one-sided reliance on evidence-oriented research. The evidence has to be adapted to the circumstances as much as it has to 'apply' to them and the mutual adjustment that is needed is precisely the role of the practitioner.

In applying the evidence, its relevance to the client has to be evaluated. In evaluating the relevance, the practitioner will rely on her own understanding of the case at hand, on her clinical experience and judgement. These factors, in turn, are not themselves based on evidence. Rather, they are added to the evidence as additional factors. EBP does not tell us how these additional factors are to be integrated into practice, how to achieve an equilibrium between the various factors, what relative weights should be assigned to each factor in decision making regarding the client and what, in general, the theoretical relation is between these factors. In particular, it does not tell us how to proceed when these factors are thrown out of equilibrium, as may happen when the practitioner's understanding of her client is incompatible with or different from the assumptions incorporated into the evidence that is judged to be best. If, however, evidence is not supposed to base practice but only to inform the practitioner, then these issues do not arise. The practitioner will balance the evidence along with other factors without giving any one of them priority. Sometimes, the evidence will be used as a counterweight to the practitioner's own conception of the client, especially when the practitioner has reason to suspect that her pre-conception is flawed. At other times, the evidence will not seem relevant at all. No single procedure or model will cover all these cases. The client is at the centre, not the evidence.

In sum, applying the evidence is not a one-sided affair. The evidence has to be evaluated in terms of its relevance to the case at hand according to some prior understanding of the case by the practitioner (and the client). Such evaluations are not posterior to the determination of the 'best' evidence. Rather, they are an integral part of it. However, these evaluations are not, themselves, 'based' on evidence.

V: Evaluate outcome

The last step entails: '... record keeping including single-case designs' (Gibbs and Gambrill, 2002, p. 454). Record keeping is no doubt important,

as well as monitoring and evaluating intervention outcomes. Evaluation is needed for accountability, increased efficiency, determining the direction of the intervention, engaging the client in the treatment process and providing data about clients and common problems to policy decision makers (Bloom *et al.*, 1995; Doueck and Bondanza, 1990; Proctor, 1990; Rosen, 1993). In fact, despite these benefits, the majority of social work students rarely use the procedures of single-subject design to evaluate their practice following graduation (Doueck and Bondanza, 1990; Howard and Jenson, 1999; Richey *et al.*, 1987). Several conditions have been identified for this lack of use of such evaluation procedures in clinical practice, including insufficient time, interference with practice, a lack of agency support and insufficient research skills (Slonim-Nevo and Ziv, 1998; Richey *et al.*, 1987).

But, if practitioners do not follow the last step of the EBP model, how likely are they to follow all five steps? Clearly, performing all steps requires more time, a greater interference with practice, a higher level of agency support and enhanced research skills. Practitioners may be more likely to evaluate their practice if evaluation is done in ways that support practice rather than dominate it (Slonim-Nevo, 1997). Similarly, practitioners will be more likely to incorporate empirical results in their work if evidence is perceived as one component of the whole complex process of intervention rather than dominating it.

In sum, a fixed protocol dominating practice is not likely to be followed by practitioners whose experience tells them that they have to use the evidence under various constrains that arise in their day-to-day practice. We suggest that practitioners would be more likely to use current evidence the more their autonomy is respected and the less constrained they are by rigid protocols.

In support of evidence-informed practice

With others (e.g. Chalmers, 2005; Culyer and Lomas, 2006; Epstein, 2009; McSherry *et al.*, 2002; Pawson *et al.*, 2003; Wolpert *et al.*, 2006), we support a model of evidence-informed practice. On this view, practitioners are encouraged to be knowledgeable about findings coming from all types of studies and to use them in their work in an integrative manner, taking into consideration clinical experience and judgement, clients' preferences and values, and context of intervention. McNeill (2006), while defending EBP, actually moves towards EIP: 'As an evolving approach to practice, EBP is not all-or-nothing proposition; rather, it is a case of more or less. Perhaps evidence-informed practice is a more apt description of what is feasible at this stage' (McNeill, 2006, p. 154). To this, Epstein (2009) adds: 'I like to substitute the word "informed" for "based" because it implies that practice knowledge and intervention decisions might be *enriched* by prior research but not *limited* to it. In this way, EIP is more

inclusive than EBP' (Epstein, 2009, p. 9). We support this notion. Furthermore, rather than using the five-step EBP model as an intervention dominated by evidence, empirical findings should be part of the intervention process, but the process itself should be flexible and creative enough to meet the on-going changing goals, conditions, experiences and preferences of clients and practitioners.

As noted above, some proponents of EBP, while being critical of 'positivist' approaches to EBP, advocate a more encompassing, interpretive view of evidence. On this view, findings obtained by qualitative, mixed methods or case studies are valued as important sources of evidence as well as those arrived at by randomised–controlled trials. An interpretive conception of evidence enables practitioners to be less dependent on or restricted by a hierarchy of evidence in which RCTs are placed on top and qualitative inquiries are at the bottom. Furthermore, it allows practitioners to practise EBP while detaching themselves from a positivist approach to research and practice and subscribe to alternative approaches, including interpretive, pragmatic and political approaches (for a review, see Gray *et al.*, 2009). For example, Gray and others (2009) write: 'The "hard" facts generated by "gold standard" RCTs can be useful as one source of information that contributes, along with other evidence, to a generally incomplete understanding of impact and effectiveness. Evidence for practice is also gained from less tangible expertise, principles and processes that can be studied through well-constructed qualitative research and provide knowledge on causal relationships and effectiveness' (Gray *et al.*, 2009, p. 41). A question remains, however, as to the adequacy of the five-step protocol characteristic of EBP, given this broader, non-positivist approach to evidence. Step 1, for example, mandates 'converting' the client's problem into an empirically answerable question, but on an interpretive approach that could only mean articulating the question as posed by the client rather than converting anything to anything else. It follows that an interpretive approach to evidence does not underwrite the five-step protocol of EBP. By contrast, EIP allows the practitioner to incorporate qualitative research and clinical evidence without thereby committing her to a fixed five-step protocol.

Furthermore, current research on the effectiveness of psychotherapy shows that the theory and the type of treatment we choose is not necessarily the key element underlying success. As Carr (2009) points out, 'A striking feature of the evidence reviewed . . . in support of the overall effectiveness of psychotherapy is the similarity in outcomes of diverse approaches with a range of populations and problems' (Carr, 2009, p. 49). In other words, we know that psychotherapy is likely to help, but it is less important which theory or intervention we use. Carr concludes that 'Factors common to the wide variety of effective psychotherapies are two to none more important than specific factors in determining whether or not clients benefit from psychotherapy . . .. Common factors include those associated with the client, the therapist, and the therapeutic process'

(Carr, 2009, p. 65). These factors are clearly matters of values, experience, imagination and skill. They include client's motivation, client's ego strength, therapist's capacity for an alliance and therapist's creativity: 'The therapeutic alliance is the single most important therapeutic common factor and accounts for about 38% of the effectiveness of psychotherapy' (Carr, 2009, p. 67). We take these findings as supporting the view that research evidence should be taken in equilibrium with other factors, particularly the goals, values, perspectives and interpersonal contacts (alliances) of practitioners in dialogue with their clients. Under these conditions, it seems that we would do better teaching our students and practitioners how to improve client–practitioner alliance rather than focusing on finding the 'best' evidence to guide our practice.

These conclusions have implications for practice. First, EIP is a client-centred, not an evidence-centred, approach. The evidence has to be consulted only in so far as it can be integrated into a dynamic process of counselling in which the practitioner has to keep in touch with the client's changing perspectives and needs. It follows, second, that the question to be dealt with is the client's question, not any empirically favoured question, and the question could be modified during the therapeutic exchange. Third, it follows that the best evidence cannot be decided in abstraction from the case at hand and cannot be applied without some prior understanding of it, which is not decided by the evidence. Fourth, it follows that no rigid protocol can be taken to dominate practice. The steps of the counselling process are to be decided in consultation with the client's perspectives and conditions at any given moment. Fifth, empirical findings and research knowledge are important, but they are to be used in a flexible and intuitive way to serve the client's ever-changing needs and situation in the dynamic process of the helping interview. It follows, finally, that no hierarchy of evidence is needed, but rather a broad knowledge of empirical and clinical experience to be applied to the therapeutic process in a sensitive and creative way while paying close attention to the appropriateness of each research material to the client's experience.

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