Psicoevidencias

On evidence-based medicine

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I am grateful to Matilde for asking me to write this preface. 'Evidence-based medicine' (EBM) is a theme which has exercised me for years. Superficially innocent and well-meaning it is however a destructive confidence trick and one which needs determined opposition before it is adopted by developing countries. The damage it has caused to the practice of psychiatry in the 'developed' world may well prove to be irreparable.

Since EBM came into fashion, the concept of evidence itself has come under scrutiny, particularly in the hands of those who have taken issue with the view that to be 'scientific' (and hence 'ethical') medical practice should be exclusively governed by guidelines. Undertaken from the perspective of historical etymology and semantics, the said scrutiny triumphantly shows that because the signifier 'evidence' refers to an ambiguous 'signified', EBM is just a confusing and confused fashion.

Although useful, this criticism is insufficient. The Achilles heel of EBM is to be found elsewhere, deep into the concept of science that it peddles and in the links it has with the business subculture which from the start has been its driving force. Were it not because of the fact that EBM is negatively affecting the quality of doctoring and patient care many might just want to dismiss it as a little neocapitalist ploy to make an 'honest buck'.

The deeper issues

There is little 'evidence' available to show that running medicine on the basis of EBM has statistically significant advantages upon the old system that it has replaced, namely the one based on medical experience, authority, and the placebo effect generated in the bosom of the doctor-patient relationship. This is not surprising for after all such 'evidence' could only be obtained from running a major 'controlled trial' comparing the two systems, and most people would consider such a trial as practically impossible to carry out. So, we are faced with the paradoxical situation of doctors being asked to accept a radical change in the way they practice

their trade (i.e. abandon the wise counsels of their own experience and follow some impersonal statistical dictates) NOT on the basis of actual 'evidence' but only on the 'say so' of statisticians, theoreticians, managers, purpose-built enterprises (like the Cochrane Institute) and investment capitalists, i.e. on the 'say so' of precisely those who stand to make money out of EBM.

The real issue with the term 'evidence'

It was mentioned above that critics had commented upon the way in which the multivocalness of 'evidence' rendered EBM unworkable. This needs to be unpacked. In English 'evidence' has two central meanings. There is the 'ontological' usage (the oldest) which goes back to 'Energeia', which was one of the Greek criteria for 'truth' and 'objectivity'. 'Energeia' referred to the basic situation where an object presented itself fully and ostensibly to the observer's perception. Given the metaphysics of perception predominant at the time, this meant a 'physical' contact between object and man. This constituted primary, unmediated 'evidence' for the existence of the object in question.

The second English meaning is epistemological and relates to having 'grounds for belief' in something. Now, what actually constitutes 'having grounds for saying so and so', however, has never been part of the 'definition' of evidence. The reason is obvious: throughout history such grounds have been negotiable for they depend upon epistemological fashion. So, in relation to its etymology it is not so much the problem that the term 'evidence' is confusing, but that its correct application requires an epistemological apparatus whose specification has changed over the years.

Thus whilst it is true that in some cases (e.g. a Court of Law) the epistemological usage can be made to be based on a putative ontological meaning (the fact that witness saw X doing a deed can be taken as evidential grounds to believe that 'X is the murderer'), in the case of EBM this cannot apply, as the 'grounds for believing' that treatment T works (epistemological usage) is not based on any objective 'perception' (ontological meaning) of any type but on a numerical sleight of hand, namely, that an arbitrarily chosen statistical significance (say 5%) is present and that this 5% is tantamount to 'seeing' some kind of 'object' that can be defined as objective or truthful.

The Achilles-heel of EBM

To deal with this it is necessary to provide a modicum of background information. The story starts during the 1920s when the old definitions of 'scientific objectivity' (as sponsored first by 17th century Baconianism and 19th century Comtian positivism) came under attack. Both had been based on different forms of inductivism and experimentalism, i.e. on the view that nature can be interrogated or even tricked into 'giving answers' - Galileo, Newton, and the whole of Enlightenment descriptivism illustrate this trend. Finally, in the 1840s, John Start Mill put all this together by listing in a canonical inductivist textbook the logical rules that allowed to obtain universal knowledge from the analysis of a sample of specimens. Interestingly enough, all that Mill did was to re-state the way in which the mind of any expert (whether medic, plumber, lawyer or engineer) operated to extract 'generic information' from their experience.

By the end of the 19th century, everything that Mill had stood for came under attack. To the new philosophy of science (as developed by Frege, Russell, etc.) the view that knowledge could be based on personal 'experience' (a psychological concept) was abhorrent; instead it proposed that logic and mathematics were to be the new foundations of knowledge. This marked the end of 'psychologism' and Comtian positivism and led directly to the development of the logical positivism of the Vienna circle, that is, of the idea that a statement could only be truthful when 'verified', i.e. that its meaning consisted in the set of operations that specified how such verification could be implemented.

Soon enough it became clear that 'operational verificationism' was unworkable and modifications were introduced to make it work such as softening the definitions of 'truth', 'verification', and 'knowledge'. Another opportunity was offered by the development of statistical techniques, most of which were constructed in England by men like Fisher, Pearson, and Kendall. What has been called the 'probabilistic revolution' describes the importation of probabilistic thinking into biology and the social sciences. Additional help came from the erosion of Newtonian fixed time-space 'objectivity' occasioned by the views of Einstein, Heisenberg and Gödel according to which definitions of reality needed to be corrected or completed by the perspectival presence of the observer or by information which was not contained within such definitions. By the end of the interbellum period 'objectivity' and 'truth' had been recast as 'probabilistic concepts' capturable by means of statistical analysis and determined by an (arbitrary) level of statistical 'significance'.

Probability arrives in Psychiatry

Without realizing the important epistemological and ethical repercussions that this major change in scientific Weltanschauung was going to have, the probabilistic proposals were soon embraced by all and sundry. An immediate consequence of such a change was that crucial epistemological rights and duties (the sense of responsibility that all 'scientists' must have in relation to the narratives they create) were abolished. Somehow, knowledge was now to be determined by impersonal mathematical mechanisms, knowledge was value-neutral, and science was the only generator of knowledge. Personal experience and wisdom, the noble notion of Sophia was to be discarded as a source of bias and of distortion of the truth.

Achieved first in the hard natural sciences, this shift reached medicine and the social and human disciplines only after the Second World War. Psychiatry resisted until the 1960s but via the Trojan horse of drug trials it allowed a modicum of statistical analysis. I do vividly remember this change for at the time I was assistant to Professor Max Hamilton from Leeds University and the man who introduced medical statistics into psychiatry. Ab initio, such analysis was only used to evaluate drug trials and most psychiatrists were sensible enough to believe that once the results of the trial were determined, Sophia (wisdom) and Empeiria (experience) took over and the psychiatrist could freely negotiate in the intimacy of the doctor-patient relationship what was best for his/her individual patient.

The birth of EBM

But as it is always the case, greed prevailed. Research groups and Institutions that originally had been created to garner information on cancer trials were emboldened into believing that their activity could be extended to all areas of medicine including psychiatry. To do this a new 'philosophical justification' was needed. Meta-analysis, an old and weak statistical technique was elected as the best candidate to become the 'final arbiter' and all its mathematical and statistical weaknesses were dismissed as minor when compared to its wonderful synthesizing advantages. The magic word 'evidence' was dusted up and imported into medicine with blatant disregard for its meaning and usefulness, and 'evidence-based' medicine was born as a post-hoc conceptual justification for what was just the obvious new business of constructing and selling clinical information.

Not surprisingly, the pharmaceutical industry supported these manoeuvres for they soon realized that drugs that could 'pass' the meta-analytical test would acquire a new legal and ethical force, particularly if Governments were persuaded to issue prescribing 'guidelines'. It is likely that the brighter in their midst also realized that such guidelines would in practice destroy therapeutic spontaneity in Psychiatry and change the ancient creative and flexible art of prescribing into a regimented, mechanical activity which in practice not even requires that issuers of psychiatric prescriptions be medically qualified.

Summarizing

To summarize, the nonsense of, and harm caused by, EBM does not stem out of the semantic ambiguities of the word in question nor of the fact that the court-philosophers that constructed it did not observe historical niceties. Its problem stems out of a much deeper epistemological travesty itself the result of a reification of the activity of prescribing and looking after people suffering from mental disorder. This reification in turn related to the needs of the neo-capitalistic economy to open up new markets and create new consumeristic needs.

First of all, it is an epistemological travesty for it proposed a view of the activity of doctoring which is inappropriate and harmful. This view relates to old-fashioned verificationism, an epistemological approach to meaning that has been abandoned even by physics, the mother of the old natural sciences. Given that next to nothing is known about the causes of mental disorder, the idea that it is possible to create systems of assessment based on speculative aetiologies is ludicrous, dangerous, and unethical. Given that throughout history all treatments meted out in psychiatry seem to have worked according to Black's law of thirds (one third recovers, one third recovers partially, and another does not, thus giving a good 66% recovery rate - which is what we still get nowadays), and that we know very little as to the nature and role of the placebo effect in these figures, then it is irresponsible to cover this up by means of meta-analysis and related techniques which have little mathematical sensitivity to detect detail at the lower levels (i.e. at the level of people actually taking the pills).

It is also an epistemological travesty for psychiatrists are being asked to accept EBM without any evidence other than the moral blackmail created by claims that mathematics are the highest form of science and hence anything which is 'mathematically demonstrable' trumps everything else. No defender of EBM has ever explained why it is that a large scale trial designed to

demonstrate that prescribing and therapeutic decision-making based by EBM is significantly better than decision-making based on the wisdom and experience of physicians.

It is a moral travesty for in order to quantify, cost and govern 'prescribing' (which should be considered as just a minor component of the doctor-patient relationship) EBM needs to implement a wholesale reification of the contents of such a relationship including the deep emotional human negotiations and the elusive intersubjective placebo response it contains. In this context 'reifying' means rendering human relationships into inanimate objects or things, divesting them of all dynamism, personal value and meaning. Once reified these human relationships by themselves can no longer explain change, and any change that is measured by 'outcome studies' has to be attributed to the 'active' ingredient, namely the drug in question. To say that such dynamic changes are perfectly managed by the fact that fair drug trials are 'controlled' and 'double-blinded' etc., etc. is not sufficient as interactions between such dynamic factors and the drug effects may occur at a non-conscious level and remain beyond the reach of the controlled design.

It can even be granted that reification does not result from the malfeasance of a few court philosophers. Since the classical writings by Marx and Lukács it is known that such changes come from deep in the heart of the economic system still pervading the West. Considering Health as just another commodity that can be sold and bought is part of this process. Cleverly sold to people as the right to choose when and where to buy health with their own money (witness of this is the current debate going on in the USA just to create a timid generic and free national health care system), the language in which health services are currently sold imitates the language of supermarkets. There are no longer patients but 'purchasers of health', doctors 'sell health' and hence it is expected that like a pair of shoes the goods sold must come under strict regulations and be perfect.

The illusion of having a supermarket of health has for good destroyed the doctor-patient relationship. The latter has become a business contract subjected to all the legal paraphernalia of the market place, and the press and internet have made sure that 'purchasers' of health are aware of their rights to get perfect health. Since doctoring will for ever remain an imperfect art, a defensive industry has been born to 'protect' doctors from selling faulty goods and this has enlarged an already expensive health budget. EBM thrives in this environment for it sells 'evidence' to lawyers working for both purchasers and sellers of health.

And in the middle of this feeding frenzy, where everyone wants to make an 'honest buck' the old doctor-patient relationship, and the old suffering patient, have disappeared for ever. This is what is really wrong with EBM.