The concept of evidence and the misuse of science in evidence based practice

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Perfection of means and confusion of ends seem to characterize our Age
(Albert Einstein)
How does we know what we believe we knows?

Epistemology, or the theory of knowledge, is concerned with how we know what we know, what justifies us in believing what we do, and what standards of evidence we should use in seeking truths about the world and human experience (Audi, 1998, p. 1)

The ultimate goal of science is continually to challenge its own truths
Evidence based………
  • Comes from medicine
  • A world wide trend not specific to social work
  • Driven by:
    • Accountability
    • What works

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Evidence based excitement

- Government
- Politicians
- Managers and payers
- Researchers
- Clinicians and practitioners?
A new paradigm for medical practice is emerging. Evidence-based medicine deemphasizes intuition, unsystematic clinical experience, and pathophysiologic rationale as sufficient grounds for clinical decision making and stresses the examination of evidence from clinical research. Evidence-based medicine requires new skills of the physician, including efficient literature searching and the application of formal rules of evidence evaluating the clinical literature

(Evidence-Based Medicine Working group 1992)
The ideal...

The integration of best research evidence with clinical experience and the users preferences

"....the conscientious, explicit, and judicious use of current best evidence in making decisions about the care og individual patients” (Sackett et al, 1996)
Some questions:

- What is to be regarded as best evidence?
- How to handle conflicting knowledge?
- Who is authorized to handle conflicts?
- What do you do when user preferences contradict the evidence?
- What do you do when your professional experience contradict research?
Two epistemological claims in EBP

- defining the criteria for what should count as knowledge
- predict that this knowledge will give “best” practice
The Logic of Evidence Based Practice

Research literature

Selection - filtering

Management

Manuals/guidelines

Clinical practice

Gold standard

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Hierarchy of evidence

• Meta analysis of RCT
• At least a RCT-study
• At least a controlled study without randomisation
• At least some kind of quasie-experimental study
• Non-experimental descriptive studies
• Expert rapport/consensus

(Geddes and Harrison, 1997)
Randomphilia

- *RCT as the holy grail in the ebp-movement*
What does it mean that an intervention is evidence based?

**Evidence based knowledge:**
- That a treated group of clients in *average* get better results compared to the *average effect* in a comparable group not getting the treatment (or another)

**Evidence based practice:**
- Implementing this knowledge through diagnose based procedures

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What`s new?

This is old:
  - Evidence based knowledge
  - The idealization of context-independent and universal knowledge
  - The aspiration to transform knowledge into ”technology”

This is new:
  - Evidence based practice
    - Narrowed and authorized criteria of what counts as knowledge (gold standard)
    - The use of evidence based knowledge are not a matter of professional autonomy alone, but come with manuals implemented in new strategies for governing

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Archibald Leman Cochrane (1909 - 1988)

- Can it work?
- Does it work in practice?
- Is it worth it?
but:

Why does it work?
The unanswered questions

• No evidence-based explanation of why treatment works and how the changes come about

• Demonstrating causation is an *illusion* of an explanation

• Does *implemented* EBP work in natural practice?
  That is an empirical question
Empirical pragmatism

"Kunnskapssenterets rolle vil særlig være knyttet til det å evaluere og måle og ikke det å forstå mer grunnleggende mekanismer eller fortolke opplevelser og sammenhenger."

(Nasjonalt kunnskapssenter for helsetjenesten, 2005)

(The Knowledge centers role will be to evaluate and measure, not to understand the more profound mechanism or meaning patterns)
Science is built up with facts as a house is with stone, but a collection of facts is no more a science than a heap of stones is a house.

(Jules Henri Poincaré, 1854 -1912)
Evidence based practice

EBP is foremost an empirical pragmatism, addressing "what works"

...a move from critical science to empirical pragmatism in the service of governmental efficiency

*May foster pseudoscience............*
Some problems

- Standardization not efficient if "best treatment" is individualization
- Many health and social problems without evidence based treatment
- The average patient does not exist in practice
- "Absence of evidence is not evidence of absence"
- Weak relation between diagnose and therapy method
- Marginalization of other kinds of knowledge
- Increase the danger to objectify the patient
- Less creative practice
- Disguise the contextual difference between practice and research
- Research informed practice a better strategy than research governed practice
Some pioneering warnings...

"Between measurements based on RCTs and benefit....in the community there is a gulf which has been much underestimated (Cochrane, 1971)

At its best a trial shows what can be accomplished with a medicine under careful observation and certain restricted conditions. The same results will not invariably or necessarily be observed when the medicine passes into general use   (Austin Bradford Hill, 1984)
Alvan R. Feinstein (1926-2001) on RCT:

- “The reason we are in such profound trouble today is that the bloody models don`t fit what is going on clinically.
- Furthermore, because clinicians have not articulated what they are doing, they keep hoping that they will get an intellectual handout, either from the social scientists, the clinical epidemiologist, the statistician, or the biomedical researcher, Clinicians will be immensely grateful for anything that will keep them from having to think about what they are doing.
- I would have no model whatsoever. I think that we have been destroyed intellectually by all of these models (Feinstein, s. 104
  I Daly (2005)
- …”the authorative aura accorded to evidence selected (…..) for evidence-based medicine may lead to major abuses that produce inappropriate guidelines or doctrinaire dogmas for clinical practice” (Feinstein . s 105)

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What about psychotherapy and social work?
Boulder-konferansen 1949

"The scientist-practitioner model"
The "medical" meta-theory in psychotherapy

- The client have a bounded/specific disorder (i.e. according to DSM)
- There is an specific psychological explanation of this disorder
- There is different mechanism of change
- The psychotherapeutic approach prescribe specific therapeutic actions
- Successful implementation of specific mechanism of change is the remedial for the disorder
Some hard evidence

- No particular treatment/approach are demonstrated superior to another, across disorders or within disorders
- The specific methods explain less than 10% of variance
- Placebotreatment (unspecific) almost as good as active treatment
- Therapists (as persons) contribute much more to outcome than the method
- The variability among providers are far greater than the variability among treatments
- When the cognitive component of CBT for depression is removed, the resulting treatment is as effective as CBT
- The “alliance” is the most robust predictor of outcome
“Despite volumes devoted to the theoretical differences among different schools of psychotherapy, the result of research demonstrate negligible differences in the effects produced by different therapy types”.

(Smith og Glass, 1977, s.760)

“..., there is massive evidence that psychotherapeutic techniques do not have specific effects, yet there is tremendous resistance to accepting this finding as a legitimate one” (Bergin & Garfield, 1994, "Handbook of Psychotherapy and Behavioral Change", s. 822).
The classical epistemology: does the map match the territory?

Modernity
- The belief in truth and method
- The belief in "rock-bottom"
- The belief in disclosure
- The belief in progress
- The belief in freedom

Map = Epistemology

method

Territory = Ontology

Science: to explicate the territory by corresponding knowledge
Epistemological problems:

• To mistake the map for the territory
• A part of the map used as the whole
• That we are part of the territory
• That the territory is historical and changing
• That some maps can form some territory
• That there are no place outside maps

What's the ontological status of the phenomenon?

objectontology ? subjectontology

correspondence or legitimacy?
From science to "technology":

- **Science**: If A, then B (i.e. with \( p=x \))
- **Technology**: If you want B, do A

**Implicit premises:**
- Stable relation between A and B
- Can be replicated
- That the action (A) is independent of the acting person
- That the response (B) is independent of the person who is the target for the action

*When is this premises valid?*
Intervention and prediction in different “worlds”

Responses are:
- Stable
- Universal
- Causal
- Unhistorical

Prediction is:
- Precise

Responses are:
- Distributed
- System dependent
- Functional
- Adaptive

Prediction is:
- Statistical
- Known variance

Responses are:
- Language dependent
- Based on reason
- Relational
- Historical/Contextual

Prediction is:
- Statistical
- Unstable variance

Do we have a map (epistemology) which fit the territory (ontology)?

Confusion create epistemological errors
Epistemological errors

The problem with epistemological errors is that it is difficult to oppose them by experience, because they also govern experience. ……in the long run epistemological errors will reveal themselves in practice by their systemic and ecological consequences.  

(Ekeland, 2007 p 5)
Summing up….

- EBP are therapies which are relatively independent of context and therefore can be standardized (= technology):
  - In medicine "evidence based" can function well when the diagnostic validity is high and the working theories are adequate

- Empirical evidence on psychotherapy and social methods show that this is contextual methods and therefore should not be standardized (= praxis)
  - The hypothesis "psychotherapy as technology" is falsified
  - There are no evidence for evidence based method in psy-
  - The effects of such methods are dependent on individual and contextual conditions
  - The practice should therefore be "tailor-made" rather than standardized
“Progress towards truth is impaired in the presence of an expert especially when new evidence is rejected because it challenges the views of experts (…)”

As an expert on EBM David Sackett has taken the consequence of this view and stated that he would:

“..never again lecture, write, or referee anything to do with evidence-based clinical practice

(Sackett 2000, s. 1283, ref I Daly 2005, s 241)

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