What is Science and Why do Health Professionals Need to Know? AHP practice

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Science in AHP practice?

"Science is a regimentation of the correct ways of discovering empirical truths about the world: namely, the truths about the world for which we have to depend on experience." (Mumford and Anjum, 2015, last handout). You need to know what science is because it should underpin your practice.

If this is the case, we have some questions which are specific to what we do as AHPs, such as:

- What is *regimentation*?
- What is *correct*?
- What is our *World*?

Science can occur in many aspects of AHP practice, specifically AHP research, and clinical practice. How can we be scientific practitioners?

Science in Evidence-Based AHP practice

One response to how practitioners can adopt a scientific approach is to say that they work in an evidence-based framework. Indeed, this is our chosen model of scientific practice, in-line with Evidence-Based Medicine (EBM).

This raises challenges that have failed to be sufficiently addressed since the EBM 'revolution' of 1992. Core to these challenges is the idea that therapeutic effectiveness is best judged by the outcomes of randomised controlled trials. This entails that:

- The *regimentation* is the robustness of the trial
- The *correct* way of discovery is population observation and comparison, and
- The *World* is that population

Challenges are highlighted further when the outcomes of this scientific structure are intended to be used clinically. In this context, this structure rests on assumptions which are inconsistent and problematic, philosophically and practically.

Scientific Evidence

Take *evidence* as "'the available body of facts or information indicating whether a belief or proposition is true or valid' (OED).

Scientific evidence in-line with the EBM rule-book is then those facts which arise from robust population study, as above.

What about clinical evidence?

Is this scientific? I mean, these are not facts or information derived not from robust population study, but from interactions with patients. EBM de-emphasises this type of evidence for clinical decision-making, in relation to RCTs etc. RCTs etc are therefore taken as being epistemologically superior to clinical evidence.

I would say:

- EBM, as it stands, points *more* towards an idea of *evidential monism* (specific evidence source/s categorically and epistemologically superior)
- Attaching more value to clinical evidence – and other sources of evidence - than EBM currently allows, points *more* towards an idea of *evidential pluralism*, which is, according to Stephen and Rani, better science.

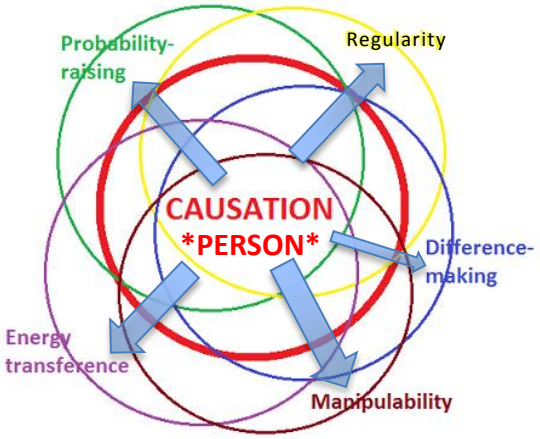
Think about a falling patient (VIDEO)

- What is the *regimentation* here?
- What constitutes the *correct* way of discovering truths?
- What is our *World* here?

How can multiple sources of evidence be used together?

This depends on your ontological starting point. If you take EBM as literal, you assume that i) epistemologically superior sources (RCTs etc) are constitutive of causation, and ii) data from population studies readily translate to individual cases. And that's fine, as long as you can provide the grounds on which you satisfactorily explain the assumptions that population data is more informative to an individual clinical situation than the emergent clinical evidence of that situation (REMEMBER THE VIDEO?).

However, if you take the person, rather than the data, to be the start point of where causal factors exist, and look outward towards the data, then many of the above problems dissolve. The person, the therapeutic alliance, and their dispositions are where causation occurs, and always would have and will continue to do so - independent of the empirical data. Population data now become symptomatic, not constitutive of causation.



BAD AHP SCIENCE: "RCTs show this does/doesn't work"

GOOD AHP SCIENCE: "What sources of evidence *best* relate to the well-being of *this* person in *this* instance?"