

Clinical verification: EBM in patient's perspective

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The state of clinical evidence

Hahn R. (2013): *“To conclude that homeopathy lacks clinical effect, more than 90% of the available clinical trials had to be disregarded.*

Alternatively, flawed statistical methods had to be applied.”

In fact, only a combination of selection and flawed statistics can lead to this conclusion.

Placebo – homeopathy - conventional

	Verum		Placebo		
	P<0.025	n.s.	n.s.	P<0.025	
Verum = placebo	3	52	52	3	110

Homeopathy = placebo (exact binomial chance): $p < 10 \times 10^{-12}$

Discarding >90% of the evidence

Shang/Egger: (Lancet 2005)

“Weak evidence for homeopathic remedies, but strong evidence for conventional medicines”:

Selection: 8 homeopathy (OR 0.88, 95%CI 0.65-1.19) versus 6 conventional (OR 0.58, 95% CI 0.35-0.85) trials.

Refused to give details about conclusive subgroup.

*“This was a careful **comparison** between homeopathy and **matched** conventional trials”*

“Careful comparison”(?)

Homeopathy

1. Diarrhoea
2. Influenza treatment
3. Influenza prevention
4. Warts
5. Weight loss
- 6. Muscle soreness**
7. Head pain
8. Sinusitis

Not included: Hay-fever (Reilly)

Conventional medicine

1. Diarrhoea
2. Influenza treatment
3. Influenza treatment
4. Stroke
5. Post-operative infection
6. Hay-fever

Selection, flawed statistics and **fraud**

- **Undisclosed**, incomparable, heterogeneous subsets
- Outcome depended on 1 trial (muscle soreness)
- Cut-off for 'larger'; above median size rendered statistically significant effect of homeopathy
- Changed quality criteria excluding Reilly's trial on hay-fever (strong positive effect).



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REVIEW ARTICLE

The conclusions on the effectiveness of homeopathy highly
depend on the set of analyzed trials

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Who needs what EBM in homeopathy?

Sharples 2003: 88% of patients complaints lasted >2 years.

Witt, 2004: 103 practices, 3.981 patients:

Complaints in adults 10.3 years, in children 4,3 years.

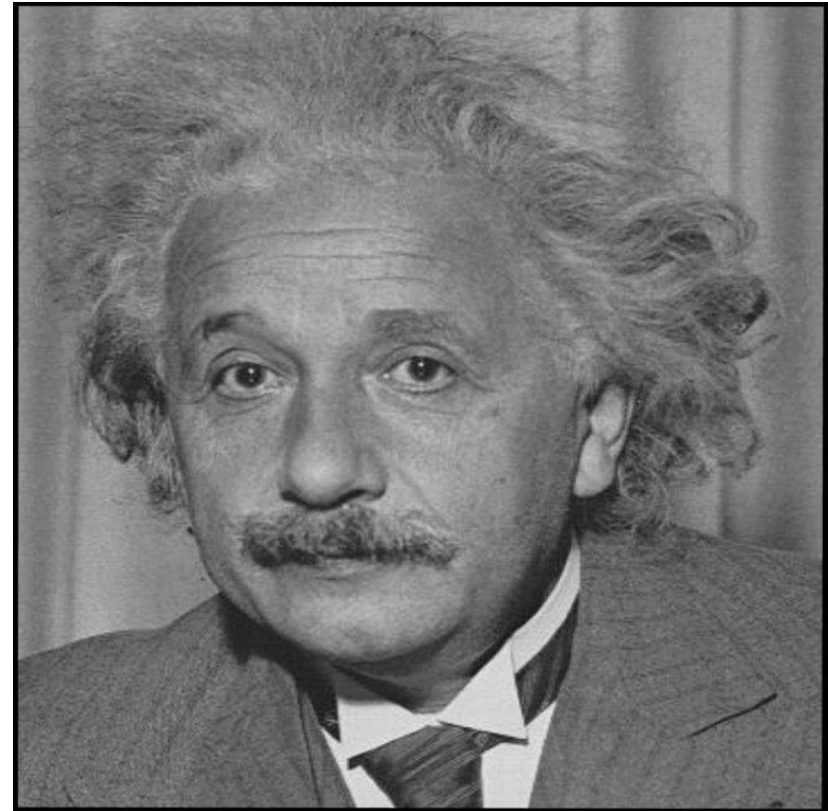
Homeopathy worked after conventional medicine failed (>200 million patients worldwide).

Different mechanism of action, different clinical research

Homeopathy does not work like conventional medicines. Homeopathic medicines should fit the person, not only the condition (**personalised medicine**).

"We can't solve problems by using the same kind of thinking we used when we created them."

Albert Einstein



Prognostic factors and EBM

Diagnosis pneumonia

<i>Symptoms/signs:</i>	<i>chance:</i>
• Cough	5%
• Fever	10%
• Rapid breathing	25%
• Shortness of breath	35%
• Chest pain on cough	50%
• Examination / CRP	80%

Chance Belladonna will work (homeopathy)

<i>Symptoms/signs:</i>	<i>chance:</i>
• Cough	5%
• Fever with delirium	20%
• Rapid breathing	35%
• Head pain with cough	50%
• <i>Grinding teeth in sleep</i>	75%

Personalised diagnosis/prognosis based on expert opinion, consensus.
.... Also on research.

Experience validated by research

Dutch prognostic factor research in 10 practices, 4094 patients.
Prognostic factor: 'Grinding teeth during sleep'.

Prevalence 'Grinding teeth during sleep' in
the **whole** population = 219/4094 = **5.2%**.

'Grinding teeth during sleep' in the population
responding well to *Belladonna* = 6/21 = **28.6%**.

**'Grinding teeth during sleep' occurs more frequently in
patients responding well to *Belladonna*. Likelihood Ratio >1.**

Algorithm for homeopathy

LR (Likelihood Ratio) =
prevalence in target (e.g. *Belladonna*) population
prevalence remainder population

LR (Belladonna | grinding teeth) = 28.6/5.2 = 5.5

Bayes' Theorem:

Posterior odds = LR * prior odds

Verified Gelsemium symptoms

Rutten et al: 13 Patients responding well to Gelsemium.

Verified symptoms:

- Diarrhoea before exams, etc.:
LR = 14.5 (95% CI 9.2 to 22.8)
- Recurrent herpes of lips:
LR = 3.1 (95% CI 0.86 to 11.5)

Van Wassenhoven: 48 Patients responding well to Gelsemium.

Verified symptoms:

- Persistent thoughts
- Ailments from grief
- Anxiety in stomach
- Hay fever
- Anxiety about the future

Conclusion

- Proof for homeopathy is not inferior to proof for conventional medicine.
- If conventional medicines fail homeopathy is a rational solution for hundreds of millions of patients.
- From patient's perspective **prognostic factor research** is a better option.