

Sir Almroth Wright and the evidentiary hierarchy

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This issue we delve into a contentious topic which holds utmost importance for some, and perhaps little for others. For healthcare stakeholders, such as healthcare managers and service providers, it has become a crucial tool used to “*assess the degree to which the evidence warrants a hypothesis*” (Mercuri, 2019). For clinicians treating patients in wards, it may perhaps be viewed as a politicised acronym which has removed the humanity and care element from health care.

We are of course talking about evidence-based medicine (EBM). Defined by Sackett et al (1996) as “*the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients*”, EBM has become in recent years the focal point of more than one strident viewpoint and stentorian article inveighing for or against its merits.

On one hand, EBM has been denigrated with no little hubris and triumphalism, indeed forming the *raison d'être* for certain journals; “*a principal characteristic of the JECp's work during the last quarter century has been the sustained, systematic analysis and critique of the EBM thesis*” (Miles, 2018). On the other hand, there are those for whom EBM is the be-all and end-all, the holy grail of which is the much-venerated randomised control trial (RCT), to be defended at all costs.

In this column, we are concerned with neither viewpoint, but the history behind them. The 2019 Wounds UK Harrogate conference will focus on improving standards by implementing clinical pathways, with a particular focus on patient involvement, evidence-based practice and reducing variation. It is fitting, therefore, for us to look back at the murky origins of the EBM debate through the life and work of Sir Almroth Wright (1861–1947), a much decorated scientist who was nominated for the Nobel Prize no less than 14 times.

An exceptional scholar who simultaneously studied modern literature and medicine at Trinity Dublin, Wright worked extensively with British armed forces during his career to develop vaccines and promote immunisation. Wright founded the Inoculation Department at St Mary's London,

wherein an assistant named Fleming would later discover penicillin (Gillespie, 1991).

THE HIERARCHY OF EVIDENCE

Amongst his other more famous work on vaccine theory and laboratory processes, Wright (1912) explored the concept of the “evidentiary hierarchy” as follows:

- ▶▶ Crucial experiment (laboratory/biomechanical)
- ▶▶ Cumulative evidence (laboratory/biomechanical)
- ▶▶ Experimental method (clinical observation/experience)
- ▶▶ Statistical method.

Bolt (2015) observes that current trends are a reversal of Wright's hierarchy, raising the question of how “*controlled clinical trials and statistical analysis come to be standard, even obligatory?*” (Porter, 1996).

Rather than simply accepting it as a benchmark from which to chart the rise of quantification and statistics in Western medicine, digging deeper into the motivation behind Wright's hierarchy reveals alarming insights. Gillespie (1991) notes that Wright's definitive work on autogenous vaccination, published in the *Lancet*, was conducted without any control group. Wright mistrusted statisticians, allegedly proclaiming that “*every commonsense man is capable of forming a judgment as to whether or not a particular result is the result of the operation of chance*.” Such views are wholly at odds with the scientific method, as was Wright's belief in “*the ability of an intelligent man to know, by instinct, when he was right*” (ibid). Presumably he used such cocksure judgment to pen his 167-page *Unexpurgated Case Against Woman Suffrage* (Wright, 1913), in which he devoted an entire chapter to ‘Woman's Disability in the Matter of Intellect’, with claims that [the female mind] “*arrives at conclusions on incomplete evidence*.”

Such staggering hubris and irony aside, the question at the “*forefront of medical debate*” in the late 19th century (Matthews, 2002) has found a resurgent voice today: is medicine a laboratory-based science or a clinical art? In either case, question the source, irrespective of hierarchy or Nobel prize nominations.

