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Editorial

Ecology: Is it Part of the Evidence?

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At 1986, a group of Medical Scientists started a series of studies entitled: "How to keep up with the medical literature". They successively produced six articles in that series, which is still available on the Internet for consultation [1]. Their underlying assumption was that, while reading journals was the most popular method for doctors to stay informed, the bulk of scientific production was already burdening them. That meant either they would miss some of the more critical research, or risk to collapse under in a considerable amount of reading material, and thus taken of their real work with patients – or even worse, that both would happen. Because of that, they established a method for effectively selecting and prioritising the reading of the best medical information available.

Guyatt [2] coined the term "Evidence-Based Medicine" (EBM). It included a novel conception of learning, teaching and studying Medicine: Physicians need to know not only the hard-biomedical sciences but also the – perhaps harder – cognitive abilities able to provide them a practical evaluation of ongoing research and science. Furthermore, some knowledge of Statistics, Methodology, and Epidemiology was needed if Physicians were to perform at their best [2,3]. Physicians must also to be aware of the uncertainty in the measuring and diagnostic instruments, as well as the probability of outcomes, to be able to better decisions for their patients [4].

In the space of three years since Guyatt's editorial, the Cochrane Collaboration was founded, to promote the critical organisation of relevant Randomised Control Trials (RCT) [5]. At about five years after that [6], all kinds of medical societies and specialities proceeded to or considered including those concepts in their study and teaching. One needed to decide then what EBM's extension was [6] if their teaching and practice were to be useful for clinicians and patients.

Since then, the Internet has multiplied the availability of published work. EBM translated itself into the broader Evidence-Based Healthcare (EBH). After Bayer [7], medical science increasingly used EBH as an instrument for the reformation of medical science. Most of the medical society has recognised its advantages over the traditional Medicine; Clinical Practice incorporated its skills and the value of careful consideration of its potential dogmatic issues and taking into account patient needs in the process [8,9]. Its actions extended to preventive medical acts [10]. Institutions around the world have recognised the value of EBH [9,11-19] and acknowledged its importance for Medicine in the most remote places of the world, [20]. Rodrigues [21] highlighted the importance of Information Systems for EBH.

However, we ask: What is Evidence? Though some may say it is something that struck the eye, That is not quite what EBH professionals say. The human eye, ears and senses are genuinely the best instruments we have to deal with daily events. However, when it comes to science and its consequences, we must beware the useful concept of Bias: any trend in the scientific evaluation or processing of medical data that might lead to conclusions systematically differing from the truth [22]. One may define Bias may as a prejudiced vision, perception or consideration towards anything. In our case, towards Evidence: Bias limits both what we perceive, through our limitations of perception, thought and information processing. Moreover, it may also limit what we are not aware of, or where we do not direct our attention. Attention bias, namely, may induce us to pay more attention to some information than to others because it appears unessential based on our perceptions [23].

We define Ecology may as the balance and patterns of relationships between plants, animals, people, and the environment

(https://www.collinsdictionary.com/dictionary/english/ecology).

There is numerous Evidence we may consider the effects of ecological phenomena in human health. Microorganisms continuously adapt to ecology (Araujo 2019); they populate diverse environments and may turn into human parasites [24]. We are subject to numerous parasitic diseases [25]. Periods of flood or dryness directly affect the way diseases reach humans [26,27]. Numerous insects relevant to men's health are present throughout our environment [28]. We must take the correct actions against those [29]. All those phenomena could be evaluated at the light of systematic evidence production, gathering and acting towards the environment [30-32].

As I write this article, a search – directly in the Pubmed site, using the terms: "evidence-based" as mesh – returns the following item values: Evidence-Based-Nursing; Evidence-Based-Dentistry; Evidence-Based Medicine; Evidence-Based-Facility Design; Evidence-Based-Emergency Medicine; Evidence-Based-Practice; Toxicology; Patient Care Bundles; Advanced Practice Nursing; Clinical Medicine; Public Opinion; Decision Support Techniques; Implementation Science; Integrative Oncology. For "ecology", it returns only six items: Ecology, Ecological Systems, Closed, Hydrobiology, Social Environment, Marine Biology. When crossing both searches – no article results!.

Is the healthcare society not paying serious attention to the Ecology phenomena? Isn't it about time we consider improving EBM and including some insight about Ecology into its conception?

Figure 1: The "Kaizen" Japanese Ideogram, meaning "continuous improvement".

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