E D I T O R I A L

All evidence is equal, but some evidence is more equal than other

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Evidence-based medicine attempts to accurately assess and integrate the weight carried by the various levels of available evidence to certain aspects of medical practice. Specifically, evidence-based medicine seeks to apply judgments on the quality of evidence to those aspects of medicine that depend on rational assessments of risks and benefits of treatments.

Nevertheless, most of the medicine we practice is not backed up by sufficient evidence: only 13% of commonly used treatments can be rated as beneficial, 23% as likely to be beneficial, and 8% as partly beneficial and partly harmful. Six percent can be rated as unlikely to be beneficial, 4% as likely to be ineffective or maybe even harmful, and in the remaining 46%, the effect of the treatment is even “unknown” [1]. So, it seems that most of the medicine that is practiced is not proven to be effective or beneficial. As long ago as 1928, Bernard Shaw wrote that the extent to which beliefs are based on evidence is much less than most believers suppose. This still holds true today.

Contrary to the above, there is also treatment that is backed up by ample evidence, but nevertheless this treatment is not always given to the patients for whom it has been proven to be beneficial. In this issue of the Netherlands Journal of Critical Care, Barends et al. present the results of a survey of all Dutch intensive care units showing that selective decontamination of the digestive tract (SDD) is currently used as an infection prevention strategy in only 30% of Dutch ICUs [2]. The main reason given for not using SDD, is the belief that there is still a lack of evidence to support it. The findings of Barends et al. are surprising in several ways. First, there is an evidence-based guideline from the Dutch Society of Intensive Care Medicine that strongly advises the use SDD in all patients on mechanical ventilation for longer than 48 hours [3]. This guideline is based on several randomized clinical trials and meta-analyses showing reduced mortality and morbidity with SDD. Second, SDD is one of the most thoroughly investigated strategies in critical care medicine, the most recent study being a yet unpublished multicenter cluster randomized controlled trial (RCT) performed in the Netherlands. The preliminary results of that trial were presented during the Brussels meeting on Intensive Care and Emergency Medicine [4]. This RCT had three arms: standard care, SDD and SOD (selective oral decontamination). The cluster design however has led to differences in baseline characteristics. After correction for baseline differences, SDD was found associated with a decrease in 28-day mortality. There was no increase in microbial resistance.

Is some evidence a nuisance and do physicians choose to neglect it for as long as they can? Why is there so much hesitation to implement SDD? The argument that there is lack of evidence for its use must be regarded as a rationalization process, thereby obscuring other arguments. In fact, the evidence argument is often primarily used to conceal underlying reasons. Physicians often tend to select and use evidence to defend the standpoint they have already taken.

Because comprehensive examination of relevant clinical studies is not at all easy, physicians may need guidance in the process of deciding what can be regarded as being “enough” or “sufficient” evidence for a change of practice. Moreover, physicians may need to accept the authority of those who can interpret increasingly complicated study designs and statistical methods that provide their conclusions. So, while we seem to have taken a step forward by developing EBM, in practice we have gone from authority-based medicine to evidence-based medicine, only now with EBM-authorities telling us what evidence to accept and what to discard.

In their practices, physicians implement therapies based on factors including cost, workload needed for therapy and implementation, availability, risks, next to evidence. Physicians are much more inclined to embrace a therapy that has few side effects, is cheap, is simple, and does not need new tools or machines, and does not need much explanation or training to implement. In the case of SDD, these factors may not carry equal weight in different hospitals. SDD is affordable, available, and does not require new equipment. However, intensive implementation and careful surveillance of cultures of SDD-treated patients is necessary. In fact, this careful surveillance has clearly demonstrated that the general fear of the development of resistance when using SDD proved to be absent in the Dutch setting [5,6], while some observations even indicate that SDD may be used to eradicate outbreaks of multi-resistant bacteria in the ICU. Implementing the SDD strategy takes time and effort.

Physicians have the obligation and responsibility to their patients to scrutinize and weigh the evidence when making decisions about implementing certain approaches. For SDD, the external evidence is very strong in comparison to other strategies generally used in the ICU and should therefore weigh accordingly.