

Introducing evidence-based trauma surgery in the emergency department and on the ward

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Introduction

Although the word evidence-based medicine (EBM) has gained wide popularity, only a very few studies have evaluated whether and how EBM works in clinical practice. Most of the available studies have only retrospectively assessed which evidence is available for the main treatment decisions in a patient. We have prospectively evaluated the feasibility of evidence-based trauma surgery.

Methods

The study was performed on a traumatology ward and the emergency department of a surgical university hospital. During two months, physicians were asked to come up with open questions on patient care. A medical student was present to collect the questions and to reformulate them into a structured format. A researcher uninvolved in patient care performed literature searches and reported the results on the following day. We used literature databases (PubMed via MeSH-Terms, and Cochrane Library), clinical practice guidelines (via www.leitlinien.de) and conventional textbooks. Articles identified by the searches were retrieve online or copied in the department or university library. Because the university library is located in 10 km distance, some decisions were based on the abstract only. The study's main endpoint was the rate of questions for which relevant evidence (>level V) was available. Additionally, time was recorded.

Results

In total, 44 EBM questions were formulated. PubMed was searched for 39 questions, textbooks for 14, the Cochrane Library for 11, online guidelines for 9, and other sources were used for 4 questions. On average, 157 text items (three per questions) were identified as potentially relevant. Among these journal article predominated (83%) over textbooks (10%). Three quarters of the questions (33 of 44) were answered, either on level Ia/b (n= 13 questions), IIa/b (n= 6) or IV (n= 14). Trying to answer a question required on average 53 minutes (median 40; IQR 18 to 65), split up between 39 (median 20) minutes of database searches and 25 (median 17) minutes for obtaining full text articles. In 4 cases, the evidence suggested a change in clinical management. The physicians nevertheless found the project very helpful for their clinical decisions and continued to perform literature searches.

Conclusions

Time will be the main barrier against the introduction of clinical EBM. It is likely that clinicians reduce EBM to those situations where the existence of evidence is likely. Literature searches should be shortened to a minimum. Although the measurable impact of EBM on patient care was disappointing, the concept of EBM was successfully implemented.