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Perspective

Evidence-based practice of rheumatology: a view-point

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INTRODUCTION

Most rheumatologic diseases are chronic conditions often with a waxing and waning course running over decades. Further, response to appropriate treatment may often not match up to the expectations of the patient and the treating specialist. It is, therefore, not surprising that patients turn to unsubstantiated or unproven treatment modalities in an effort to gain quick relief. Therefore, it becomes crucially important both for the treating rheumatologist and the patient, that information on scientifically proven treatment options is readily available. Such information would not only aid a clinician in selecting appropriate treatment for his/her patients but also help to provide some confidence in the treatment regime being adopted for the patient concerned.

WHAT IS EVIDENCE-BASED RHEUMATOLOGY?

Evidence-based medicine (or rheumatology) is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients. Its practice requires the integration of individual clinical expertise with the best available external clinical evidence from systematic research and our patient's unique values and circumstances.[1] Such evidence could be in the form of treatment guidelines, a good review article or original therapeutic trials published in medical journals. However, for successful treatment accurate diagnosis is an essential requisite, which brings in the importance of history-taking, clinical examination and laboratory work-up. Therefore, the process of evidence-based rheumatology (EBR) could be considered to commence right from the first point of contact between patient and rheumatologist and to extend through the process of establishing a diagnosis and recommending a treatment regime. It is, however, important for making clinical decisions to not only sift through the evidence available but also to be able to search for appropriate information in the first place.[2]

WHY SHOULD ONE FOLLOW EVIDENCE-BASED PRACTICE OF RHEUMATOLOGY?

Rheumatology practice poses both diagnostic and therapeutic challenges.[3] Rheumatologists in India are all too familiar with requests for a 'second opinion' on a patient already seen by another clinician. Not uncommonly, there are problems with either the diagnosis or treatment or both. A simple example: a clinician orders a rheumatoid factor (RF) on a patient presenting with right elbow pain due to a lateral epicondylitis (tennis elbow) and makes a diagnosis of rheumatoid arthritis (RA) if the RF turns out to be positive. Not only is the initial diagnosis incorrect, any treatment based on this diagnosis will also be inappropriate.

The science and art of rheumatologic practice would need to follow the basic principles of clinical medicine, namely, history and examination, relevant investigations leading to a proper diagnosis, following which a treatment plan is decided. This clinical exercise necessarily needs to be based on appropriate guidelines to be successful. In a patient with inflammatory joint disease, e.g. the pattern of joint involvement will be important. A symmetrical, inflammatory polyarthritis with small joint involvement will suggest RA. One will need to confirm the diagnosis, assess disease activity and document any damage. Treatment options will need to be discussed with the patient to make the appropriate final choice. In order to make the right choice from among the various pharmacological and non-pharmacological measures, the rheumatologist would need to be aware of evidence relating to the response or otherwise, with the various options. Thus, EBR is the only appropriate way forward.

TYPES OR CATEGORIES OF EVIDENCE

For basing one's clinical practice on the available evidence, the clinician needs to consider its strength and reliability.

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Table 1 Categories of evidence

Category	*Evidence*
1A	Meta-analysis of randomised controlled trials (RCT)
1B	At least one RCT included in the analysis
2A	At least one controlled study without randomisation
2B	At least one type of quasi-experimental study
3	Descriptive studies, such as comparative studies, correlation studies or case-control studies
4	Expert committee reports or opinions and/or clinical experience of respected authorities

For the evaluation of a clinical study, the parameters to consider would be: method, design and statistical power of the study;[4] an analysis of the treatment effect (effect size or numbers needed to treat for validation).[5] While evaluating reviews or meta-analysis of trials/studies, evidence can be categorised according to importance, in descending order of importance in six categories (Table 1).[6]

Thus, in considering a treatment option (e.g. use of glucosamine for osteoarthritis), a meta-analysis (category 1A evidence) would be far more relevant compared to an expert panel/committee report (category 4 evidence).

ARE ANY EVIDENCE-BASED GUIDELINES FOR RHEUMATOLOGY AVAILABLE?

There are excellent texts describing the technique for appropriate history taking and examination of a patient with a rheumatologic problem.[7,8] Guidelines have been published in journals and from professional bodies, relating to specific areas in rheumatology:

1. *RA:* The British Society for Rheumatology (BSR) has recently published their guidelines for the management of early RA.[9] This excellent publication, reviews background information on RA and 142 publications relating to different aspects of RA. Some of the other recent publications on RA include short-term low-dose steroids compared with placebo and NSAIDs, paracetamol compared with NSAIDs and biologicals.[10–12] Cochrane review comparing low-dose steroids with placebo and NSAIDs, reviews 10 studies and 320 patients, and concludes that low-dose prednisolone is more effective than placebo or NSAIDs and may be used intermittently for the treatment of RA. The review comparing paracetamol and NSAIDs suggests that though there is a demonstrable preference for NSAIDs by patients and rheumatologists, there is no demonstrable benefit of one over the other. The systematic review of biologicals concludes that all three biological agents demonstrate similar efficacy when added to methotrexate in patients with active RA. In addition, there are publications on various non-pharmacological treatment options in rheumatoid arthritis, such as patient education, occupational therapy and hand exercises.[13–15]
2. *Osteoarthritis:* There are two guidelines from the EULAR Standing Committee for International Clinical Studies Including Therapeutics, one dealing with knee OA and the other with hip OA.[16,17] Another guideline, from the American Academy of Orthopaedic Surgeons (AAOS) also deals with OA of the knee and is an update of the 1999 guideline.[18] The EULAR knee guidelines deal with pharmacologic and other non-surgical treatments for knee OA and are an update of their 2000 guidelines. The AAOS guideline is in 2 phases. Phase 1 is intended for the first contact physician and is less detailed than the EULAR guidelines, whereas phase 2 is intended for specialists and also addresses a range of surgical treatments. Though the EULAR and AAOS guidelines agree on many issues, the significant differences are the inclusion of knee aspiration and visco-supplementation as a treatment option by AAOS and its conclusion that evidence in favour of glucosamine and chondroitin is not conclusive.

Other recent guidelines have been published[1] for low-back pain, osteoporosis and ankylosing spondylitis though it may not be practical to review all of these in this article. Professional associations such as BSR (http://www.rheumatology.org.uk) have an excellent range of current information on their website, dealing with management of specific diseases (e.g. RA), diagnostic approach to a symptoms complex (e.g. a hot, swollen joint) and therapeutic guidelines for drugs (e.g. biologicals). Standard textbooks provide a ready source of evidence-based information (e.g. Oxford Textbook of Rheumatology.[19] Excellent resources in the form of textbooks and a website outlining the concept behind EBM and providing details on how best this ought to be practiced are available.[20,21] Another excellent resource for EBM is the Cochrane Library, which is a collection of databases that contain high-quality, independent evidence to inform healthcare decision-making. The website can be accessed easily with a large amount of information that is available free of charge.[22] Even for the busiest and most frugal practitioner, this is an excellent resource for available guidelines on modern therapeutics. Table 2 gives a few commonly used terms in the practice of EBM.