

Class Room

How to read a Clinical Journal – An insight

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Reading a scientific article is a complex task. The importance of this herculean task of keeping up to date with current information cannot be understated. One study quotes that to keep up with any given 10 leading clinical journals one might be expected to read 200 articles and 70 editorials per month! The biomedical literature is expanding at a rate of 6- 7% per year¹. This article is for the clinician on roller blades who hasn't had the time to catch up with his reading!

It is important to remember the reasons for writing articles and reading them are entirely different. We read journals for a variety of reasons like keeping ahead of professional news, understand pathobiology, find out how a seasoned clinician handles an issue, to determine the etiology or causation, to learn the clinical course of a disorder, to find out whether to use a new diagnostic test, to distinguish useful from harmful therapy, and sometimes even to impress others! Reading journals is a skill which will come in handy while writing up reports, literature reviews or project dissertations².

In the most highly developed form critical appraisal will help gather clinical evidence and also incorporate conclusions about validity and applicability into their evaluation and management of patients. At lower levels, critical appraisal helps to keep the learners from being misled by invalid or inapplicable clinical evidence.

A clinician should look at critical appraisal as a skill that must be introduced whenever possible into the teaching- learning cycle. It is not necessarily a separate entity that has to be dealt with only at a journal club or during dissertation review. It is advisable to introduce critical appraisal skills at the bedside and in counselling rooms.

There are three approaches to reading any article. These are the browsing or surveillance approach, the problem solving approach and the third more in depth analysis or exhaustive approach. With the browsing approach we merely scan and decide if we want to skip the article or file it away for detailed appraisal later. By following a defined set of steps this approach can be made effective. In the problem solving approach we look at the article carefully keeping in mind a specific solution – whether to use a diagnostic test, judge the therapy etc. In the exhaustive approach we dissect the article in detail for further presentation at a journal

club, or teaching round. As the name suggests this is exhaustive and not possible for all the clinical material we come across. The first two approaches will help you organise an exhaustive approach that access the scientific quality as well as body of information. There are four guides which serve as a basic foundation for browsing and not for a clinician whose intent is to focus on the exhaustive approach right away^{3/4}.

Step 1 – Look at the title. Is it potentially interesting or useful in your practice? If not, move on to the next.

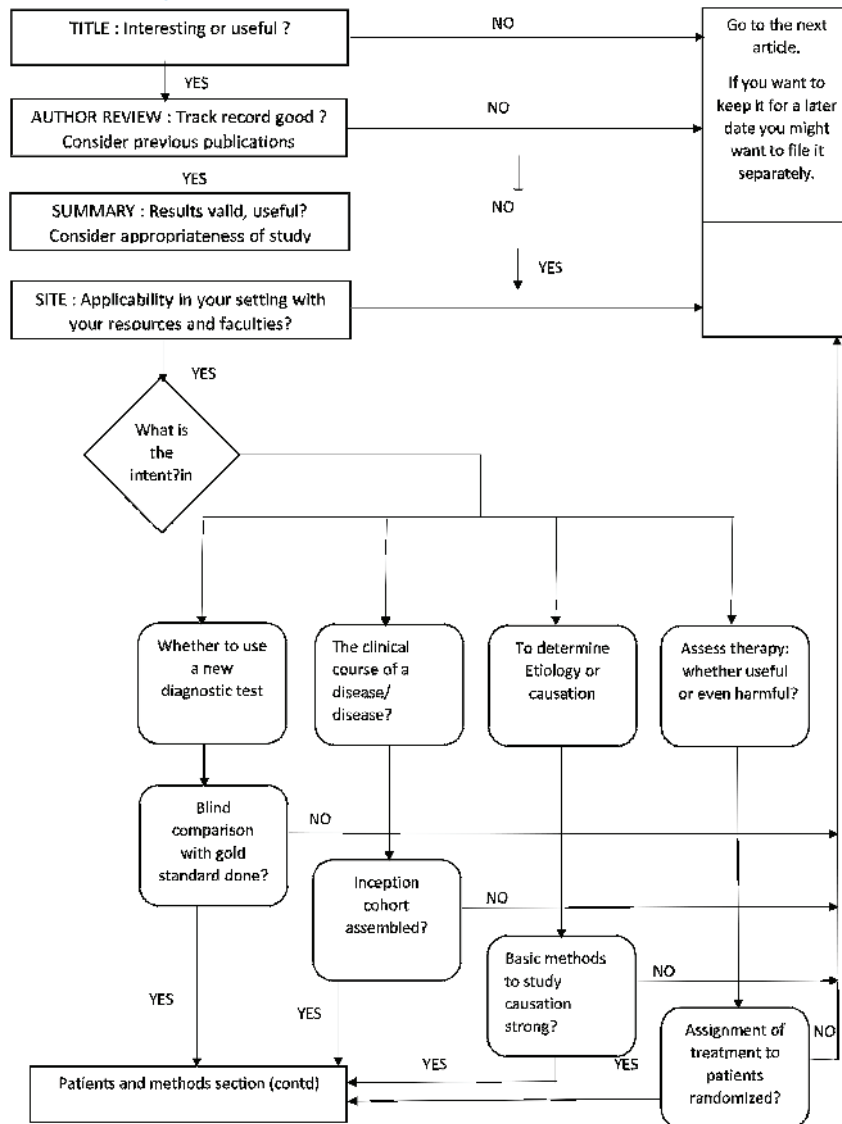
Step 2 – Review the authors. Consider spending time on a author who's well known and with a seasoned track record. Unknown authors always deserve a passing glance and an open mind. Avoid authors who's articles in the past have had vague or unsupported conclusions. Always look for institutional affiliation. This will hold some value in passing an opinion on unknown authors.

Step 3 – Read the summary or abstract. The main objective here is to decide if a result is valid if useful to you in practice. A good abstract will include the key results as well as the study design. Most times the abstract will tell you enough to judge its validity It's not only important that the results are true. They should be both true and useful.

Step 4 – Consider the site of study. Ascertain if the patients in the original article are similar to yours in disease severity, treatment, race and other key features. Ask yourself if your set up accommodates the required faculties, expertise, technology and resources to sufficiently apply the results of the study. In this juncture, it is important to remember that primary care centres refer and tertiary centres are to accept the referral. Hence different diagnostic tests are and should be carried out at different setups. So while judging the application of a study it is important to realise that the purposes and limitations of the different centres are varied.

There are specific guidelines according to the purposes of reading an article like to assess diagnostic tests, determine etiology, progression or to decide on treatment. There are certain key questions one has to ask for each purpose.

Fig 1 - Steps to effectively review a clinical article⁶



So an insight to these guidelines for the varied purposes are described in the algorithm below (fig 1&2).

Applying these steps would definitely save time if you want to keep up to date with the reading. On the one hand only the most valid, relevant, applicable articles would be scrutinized and few good articles may be possibly missed.

It is possible that a study can still be deemed invaluable despite all our steps to analyse it. The final question lie in its clinical use and application. Sometimes despite good study design, the results may be wrong. Very occasionally results may be due to chance alone. One should always weigh the risk versus benefit before decided to apply a certain treatment in their setting - most importantly considering hospital costs and admissions.

Guidelines will be useful in organising, reviewing and presenting literature. Critical appraisal is a collection of processes leading up to a decision in terms of truth, usefulness, effectiveness, significance, desirability and so on.

References

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- 2) Greenhalgh Trisha, Taylor Rod. How to read a paper: Papers that go beyond numbers (qualitative research) BMJ 1997; 315: 740
- 3) How to read a paper : getting your bearings (deciding what the paper is about) BMJ 1997;315:243
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Fig 2 - Patients and Methods section

