Chapter 5

How to Search and Critique Scientific Evidence for Decision-Making

Mayuree Tangkiatkumjai
Srinakharinwirot University, Thailand

Win Winit-Watjana
International Medical University, Malaysia

Li-Chia Chen
The University of Manchester, UK

ABSTRACT

A clinical decision on the use of complementary and alternative medicine (CAM) should be made based on evidence-based medicine (EBM) together with practitioner's knowledge and experiences. This chapter describes the process of EBM, including how to address a clinical question, do a systematic search for appropriate evidence with key search terms, appraise the evidence and make a clinical decision on CAM applications. An effective literature search should be performed by using a structured search strategy in searching biomedical and CAM databases, such as the National Center for Complementary and Alternative Medicine (CAM Citation Index). Few standard tools are recommended to evaluate the quality of CAM studies, i.e. the CONSORT extension for herbal interventions and STRICTA for RCTs of acupuncture. Additionally, some guidelines for designing RCTs in Chinese herbal medicine (CHM) can also be adopted to critique CAM literature. A clinical decision on choosing optimal CAM for patient care should be based on the current best evidence emerged from the EBM process.

INTRODUCTION

Decision-making on optimising the use of complementary and alternative medicine (CAM) is challenged for clinical practiners due to a lack of robust clinical evidence. Therefore alternative approaches such as anecdotes or recommendations from others, may be used to rationalise clinical decisions. However, the evidence-based medicine (EBM) process which is employed in western or conventional medicine to facilitate clinical decision making, is an appropriate approach to making a decisions whether to use CAM. Three key components, i.e. clinical expertise, patient's values and preferences, and the best research evidence, should be integrated into the EBM decision-making process to ensure optimum health outcomes in terms of therapeutic, economic or humanistic impacts.

According to Sackett and team (1996) EBM refers to the conscientious, explicit and judicious use of current best evidence in making decisions about individual patient care. Another definition is 'the 'systematic reviewing, critically appraising and using results from clinical studies in order to provide optimal patient care' (Rosenberg, et al., 1995). The correct concept of evidence source and quality, together with the relevant skills required to retrieve, appraise and apply the best current evidence is the foundation for making an evidence-based clinical decision when choosing CAM. This chapter outlines these processes.

Prior knowledge of best current evidence is the cornerstone to implementing EBM into clinical decision-making. Evidence is generally referred to as a fact or information obtained from clinical or scientific studies using appropriate methodologies, however the quality of evidence varies. Several organisations, e.g. Oxford Centre for Evidence-Based Medicine, or the Scottish Intercollegiate Guidelines Network (SIGN), have endeavoured to categorise the levels of evidence for judging the causal relationship of clinical interventions, i.e. from the highest to the lowest, based on the quality of the clinical studies. To facilitate decision-making when choosing CAM, the category proposed by National Health and Medical Research Council (2009) is often used (Table 1).

A systematic review of randomized controlled trials (RCTs), including meta-analysis, is the strongest evidence level, followed by RCTs, non-RCTs, observational studies (e.g. cohort or case-control studies), and cross-sectional research for judging causality. The RCT is an experimental design aimed to minimise bias and control confounding factors. RCTs provide more rigorous

22 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/how-to-search-and-critique-scientific-evidence-for-decision-making/191965

Related Content

Integrative Medicine and Prospective Research on CAM

Mayuree Tangkiatkumjaiand Annalisa Casarin (2019). *Complementary and Alternative Medicine: Breakthroughs in Research and Practice (pp. 17-37).*

www.irma-international.org/chapter/integrative-medicine-and-prospective-research-on-cam/211765

Does IVF Increase Risk for Gynaecological Cancer?: What Is the Limit?

Leonidas Zepiridis, vangelia Maretiand Theodoros Theodoridis (2021). *Handbook of Research on Oncological and Endoscopical Dilemmas in Modern Gynecological Clinical Practice (pp. 83-95).*

www.irma-international.org/chapter/does-ivf-increase-risk-for-gynaecological-cancer/260076

Effects of Alcohol Policy on Population Variables and Control Measures: A Case Study in Dodoma Municipal Council, Tanzania

R. W. Kisusu, N. Kalimang'asi, N. Machaand J. L. Mzungu (2019). *Substance Abuse and Addiction: Breakthroughs in Research and Practice (pp. 179-189).*

www.irma-international.org/chapter/effects-of-alcohol-policy-on-population-variables-and-control-measures/219414

Pain Psychiatry of Trigeminal Neuralgia

Lily H. Kimand Michael Bret Schneider (2018). *Effective Techniques for Managing Trigeminal Neuralgia (pp. 243-264).*

www.irma-international.org/chapter/pain-psychiatry-of-trigeminal-neuralgia/203483

Systematic Review and Evaluation of Pain-Related Mobile Applications

Anabela G. Silva, Alexandra Queirós, Hilma Caravau, Alina Ferreiraand Nelson P. Rocha (2020). *Alternative Pain Management: Solutions for Avoiding Prescription Drug Overuse (pp. 168-190).*

www.irma-international.org/chapter/systematic-review-and-evaluation-of-pain-related-mobile-applications/237749