Systematic Review Course

Systematic review is a summary of clinical literature that uses explicit methods to perform a comprehensive literature search and critical appraisal of individual studies and that may use appropriate statistical techniques to combine these valid studies when appropriate. The statistical technique for pooling primary trials is called a meta-analysis.

The need for this course:

There is an urgent need for this post-graduate course at King Saud University. This need can be summarized as follows:

- Currently, In Saudi Arabia there is no formal practical course to train interested participants in conducting systematic reviews. Similar courses are available in UK, Canada, and USA at an extremely high cost.

- No other courses are currently available to train and support participants from formulating a clinical question up to the submission of the review for publication in medical journals or Cochrane Collaboration Database.

- Systematic review is an essential part of any project to be submitted to National Plan for science and technology (NPST) or similar bodies for funding research projects in KSU or abroad.

- KSU, a leading university in the Middle East, is expected to lead and support high quality systematic reviews that can provide solutions to local problems for health care.

- Local decision makers will find evidence based reviews that are locally produced to be of great values to make the appropriate decision.

- The course will enable potential participants to be the first author of their own systematic review, when the review is published. The staff at

Bahamdan's EBHC-KT can support and encourage participants to publish the review in Cochrane Library.

Course Objectives:

At the end of this course, participants should be able to:

1- Understand the structure and process of systematic reviews

2- Develop their own protocol for a systematic review

3- Develop skills needed to undertake a systematic review

4- Effectively and efficiently formulate a question, search, select, appraise, synthesize and interpret the evidence

5- Publish the systematic review in local or international medical journals.

Target Audience:

This course is designed for multidisciplinary participants that should be of interest to many disciplines:

- Healthcare professionals
- Post-graduate health sciences graduates, demonstrators , residents
- Researchers and academics with healthcare background

Requirement for participants:

Participants are expected to have a degree in health science and the ability to use their own laptop with Microsoft Office programmers. Participants are expected to be ***available for ALL 10 days of the course.***

Proposed starting date: Middle of April 2012

Length of the course:

April 2012 – February 2013 . This comprises of ten full days' work (please see the Table below for details)

How the course is designed to run:

This course is unique in its design. In the **morning** there will be plenary sessions of the day. A reading material will be provided to allow maximum benefits for participants to grasp the concept that are presented in the morning.

In the **afternoon**, a small group with an experienced tutor in systematic reviews to lead a practical tutorial with an opportunity to put theory into practice, and to answer any individual quires relevant to own topics.

The course is planned to spread over several months to allow participants to digest the concepts and to give enough time to complete the tasks for the following session. As participants are usually very busy people, one day's work or two days' work in a month would generally be expected to be convenient.

The level of support:

Every participant will be allocated to a member of staff at the EBHC-KT BaHamdan's Chair (or a collaborator with the Chair). The tutor will support the participants for any problems that may be encountered during the course, and will make sure that the review will be submitted for publication at the end of the course.

Resources:

- The staff members at EBHC-KT as well as experts in systematic reviews from outside KSU are well known, nationally and internationally with track records of published systematic reviews (links to their publications, and a links to brief CVs to each staff members will be available soon)
- Wireless internet access to electronic databases: Ovid Medline, Pubmed, EMBASE, Cochrane Library, Cochrane Clinical Trials registry, SINAHL
- Bibliographic Database: Reference manager 12 or Endnote, RevMan 5
- Additional support, from: Librarians, methodologists, statisticians

Recommended reading resources and references that will be used in the course:

1. **Higgins JPT, Green S (editors). Cochrane Handbook for Systematic Reviews of Interventions Version 5.1.0 [updated March 2011].** The Cochrane Collaboration, 2011. Available from: http://www.cochrane-handbook.org

2. **CRD's Guidance for undertaking reviews in health care, Third edition.** http://www.amazon.co.uk/Systematic-Reviews-Guidance-Undertaking-Healthcare/dp/1900640473/ref=sr_1_1?ie=UTF8&qid=1321178563&sr=8-1

3. **Finding What Works in Health Care: Standards for Systematic Reviews** http://www.iom.edu/Reports/2011/Finding-What-Works-in-Health-Care-Standards-for-Systematic-Reviews.aspx

Fee:

5000 SR / participant not including food or refreshments. However, 50% of the fees will be refunded if the review is ready for submission for a publication at the end of the course.

Course Outline:

The course is designed to be delivered over a 9 months period. The course consists of TEN days' work, **Table 1.**

	Topics to be covered
Day 1 The Basics : **Introduction to Evidence based Medicine** **Date Wednesday 18 April 2012** Speaker: TBA	• What is EBM? • What is Systematic review? • Basics of critical appraisal of an RCT
Day 2 **Writing a protocol for a systematic review** **Date Thursday 19 April 2012** Speaker: TBA	An overview of the steps to be addressed in the protocol (some of which will be presented in more details for later sessions). • Background • PICO • Review question • Inclusion criteria, • Search strategy • Study selection • Data extraction • Quality assessment • Data synthesis
Day 3 and 4 **Identifying the evidence for systematic review** **Date Wednesday 16 May 2012** **Date Thursday 17 May 2012** Speaker: TBA	• Searching essential electronic databases • Searching other sources: grey literature, experts, hand search, cited references in reviews, contacting known relevant authors
Day 5 **Study Selection** **Date Wednesday 12 September 2012** Speaker: TBA	• Process of study selection and documentation • Practicing Kappa statistics • Forming the PRISMA Flow Chart • Practicing Managing references (use of bibliographic databases)
Day 6 **Data Extraction, Quality Assessment**	• Developing your data extraction form • Risk of bias , methodological quality, tools and checklists

Date Thursday 13 September 2012 Speaker	
Day 7 **Summarizing the evidence** **Date Wednesday 10 October 2012** Speaker TBA	• Narrative synthesis • Meta-analysis • Practicing the Use of RevMan 5 : Forest Plot, Funnel Plot
Day 8 **Interpreting the findings** **Date Wednesday 14 November 2012** Speaker TBA	• Investigating heterogeneity • RR, OR, NNT, ARD • 95% CI, p value • SMD • Fixed-Effect model and Random-effect model
Day 9 **Report Writing** **Date Wednesday 12 December 2012** Speaker TBA	• Writing tips & Structure of the review • What a peer reviewer would look for • Executive and Plain language summaries
Day 10 **Presenting day** **Date Wednesday 20 February 2013**	Presentations at Grand Theatre