University College Dublin

School of Nursing, Midwifery & Health Systems

UCD Health Sciences Summer School

NMHS31890: Critical Appraisal of Research for Healthcare (10 ECTs)

Providing healthcare which is grounded in research evidence is widely recognised as a key skill for all healthcare professionals and policy makers. In order to facilitate the movement of research evidence into healthcare policy and practice, it is necessary to build students' capacity to engage with health research and foster their critical appraisal skills in relation to the evidence which underpins best practice and policy. Therefore, in completing this course, students will be introduced to different types of research evidence and they will examine the relationship between clinical questions, research designs and methods. Furthermore, the students will work in small groups with a mentor who has experience and knowledge of a critical component of the evidence based healthcare process for example: clinical audit, Lean methodology, clinical research centres, systematic review and clinical trials methodology. This mentor led group work component of the module will facilitate active student engagement with and reflection upon the complex processes and mechanisms by which evidence is translated into healthcare practice. The aim of this module is to equip students with the knowledge, skills and language to embark on life-long learning and appreciation of the relationship between research evidence and an evolving healthcare practice.

Learning Outcomes

On completion of this module the students should be able to:

1. Recognise the importance of evidence for healthcare practice
2. Become familiar with the language of research
3. Access and summarise published research related to healthcare
4. Describe the relationship between research questions, research designs and methods
5. Recognise and appreciate some of the processes and mechanisms by which evidence is translated into healthcare practice/policy.

There will be an emphasis on the development of skills in:

1. Identifying research evidence for healthcare practice
2. Connecting five research question types with their corresponding evidence hierarchy
3. Articulating the key features of a research article
4. Recognising and applying the appropriate critical appraisal tool to featured research designs
5. Describing and appraising the key features of a 'real' research project/methodology in relation to the process of translating evidence into practice

Teaching and Learning Strategy:

The teaching component of the module will run over two weeks. In these two weeks the students will receive tuition in a combination of large group lectures as well as smaller group work sessions. During the third week of the module the students will work autonomously to develop a portfolio of research evidence using a structured electronic workbook supplied with the course materials. Through this portfolio the students will demonstrate their skills in finding, summarising

and appraising evidence which pertains to healthcare. Also during this third week the students are required to attend two mentor-led group sessions in which the students will learn from their mentor's experience and knowledge of an aspect of translating evidence into healthcare practice.

The teaching and learning in this module will be structured as follows:

Class contact: Lectures	15 hours
Class contact: Group work	15 hours
Self-directed learning: Workbook/Portfolio Development	45 hours
Autonomous student learning: Independent study	150 hours
Total	**225 hours**

Assessment:

At the end of week two of the course the students will submit a group matrix of research evidence developed through small group work over the course of the two weeks. This component will contribute 25% of the student's overall grade. A further individual assessment component involves the submission of a portfolio of research evidence/workbook. This component will contribute an additional 25% of the student's overall grade and will be submitted at the end of the fourth week. The students are also required to submit an evidence review based on one of the mentor-led sessions that they attended in week 3. In this essay the students are expected to present a summary of the mechanism or methodology presented by the mentor and to reflect upon how this relates to the complex process of translating evidence into healthcare practice or policy. The students must choose an aspect of this method/mechanism and develop a critical appraisal of relevant research evidence. This assessment component will contribute 50% of the student's overall grade and will be submitted at the end of week 6.

A minimum grade of D- is needed to pass the course.

1. Matrix of research evidence (group work) 25%
2. Submission of portfolio of research evidence 25%
3. Research report 50%

Regulations:

School of Nursing, Midwifery and Health Systems Referencing and Writing Guidelines are appended as separate documents. The University grading descriptors are also attached as a separate document.

Campus supports:

The Health Sciences Library is in the building where the students will take class. All students will have a library card which will gain them access to this facility. Each student will also have an academic mentor to guide them through this course and its assessments.

Course lecture overview (15 hours):

Class 1: Introduction to evidence-based healthcare practice and policy

At the end of this class students will be able to;

1. Understand the aims and content of the module and its assessment
2. Define the concept of EBP
3. Connect evidence with healthcare practice and policy
4. Reflect on barriers to EBP in practice

Class 2: Asking the research question

At the end of this class students will be able to;

1. Reflect upon problem and topic areas for healthcare research

2. Identify a research question or hypothesis

Class 3: Introduction to research paradigms and designs

At the end of this class students will be able to;

1. Link research paradigms and types of research questions
2. Identify and reflect upon the paradigms, approaches and designs of research articles
3. Identify and connect the PICOT/PECOT/PST elements of a research question with research paradigms and designs

Class 4: Introduction to qualitative research designs

At the end of this class students will be able to;

1. Recognise the most common qualitative research designs to answer different types of research questions
2. Identify the major steps of ethnographic, phenomenologic and grounded theory designs

Class 5: Critical appraisal of qualitative studies

At the end of this class students will be able to;

1. Understand how to distinguish between questions of meaning, perception and theory
2. Apply criteria for critical appraisal of qualitative studies

Class 6: Introduction to quantitative research designs

At the end of this class students will be able to;

1. Recognise the most common quantitative research designs to answer different types of research questions
2. Identify the most appropriate designs for different types of research questions

Class 7: Critical appraisal of quantitative research designs

1. Understand how to distinguish between questions of effectiveness and causation
2. Apply criteria for critical appraisal of quantitative studies

Class 8: Application of critical appraisal tools to research articles

At the end of this class students will be able to;

1. Apply criteria for critical appraisal of intervention studies
2. Evaluate trustworthiness of the study's findings
3. Discuss what populations the findings might be applied to
4. Interpret the study findings

Class 9: Reading a systematic review with meta-analysis

At the end of this class students will be able to;

1. Understand the differences between literature reviews and systematic reviews
2. Identify the main types of data synthesis used by systematic reviews
3. Interpret the findings of systematic reviews

Class 10: Critical Appraisal of Randomised Controlled Trials

At the end of this class students will be able to;

1. Identify the main features of randomised controlled trials
2. Evaluate and interpret the findings of RCTs
3. Judge the generalizability of the study and its potential applicability to their own practice

Reading:

The course core text is: Polit DF, Beck CT. (2013) Essentials of Nursing Research (8th Ed). Philadelphia: Lippincott, Williams and Wilkins.

The recommended course reading is:

A Practical Guide to Clinical Audit (2013) http://www.hse.ie/eng/about/Who/qualityandpatientsafety/Clinical_Audit/clauditfilespdfs/practicalguideclaudit2013.pdf

Barker, J., Linsley, P., Kane, R. (2016) Evidence-Based Practice for Nurses and Healthcare Professionals (3rd Edition) SAGE

Brown, C. E., Kim, S. C., Stichler, J. F., & Fields, W. (2010). Predictors of knowledge, attitudes, use and future use of evidence-based practice among baccalaureate nursing students at two universities. *Nurse Education Today, 30*(6), 521-527. doi: http://dx.doi.org/10.1016/j.nedt.2009.10.021

Caldwell, K., Coleman, K., Copp, G., Bell, L., & Ghazi, F. (2007). Preparing for professional practice: How well does professional training equip health and social care practitioners to engage in evidence-based practice? *Nurse Education Today, 27*(6), 518-528. doi: http://dx.doi.org/10.1016/j.nedt.2006.08.014

Clark, A. M. (2013). Getting streetwise: A metaphor for empowering nurses for evidence-based practice. *Nurse Education Today, 33*(1), 3-4. doi: http://dx.doi.org/10.1016/j.nedt.2012.08.010

French, B. (1998). Developing the skills required for evidence-based practice. *Nurse Education Today, 18*(1), 46-51. doi: http://dx.doi.org/10.1016/S0260-6917(98)80034-8

Makic, M. B. F., Martin, S. A., Burns, S., Philbrick, D., & Rauen, C. (2013). Putting Evidence Into Nursing Practice: Four Traditional Practices Not Supported by the Evidence. [Article]. *Critical Care Nurse, 33*(2), 28-44. doi: 10.4037/ccn2013787

Melnyk, B.M., Fineout-Overholt, E. (2011) Evidence-Based Practice in Nursing and Healthcare: A Guide to Best Practice (2nd Edition) Lippincott Williams & Wilkins

NMBI, (2000). Guidance to Nurses and Midwives on the Development of Policies, Guidelines and Protocols. *Nursing and Midwifery Board of Ireland*

Polit, D.F., Beck, C.T. (2012) Nursing Research: Generating and Assessing Evidence for Nursing Practice (9th edition) Lippincott Williams & Wilkins

Polit, D.F., Beck, C.T. (2014, 2010) Essentials of Nursing Research: Appraising Evidence for Nursing Practice (8th & 7th editions) Lippincott Williams & Wilkins

Registered Nurses' Association of Ontario. (2012). Toolkit: Implementation of best practice guidelines (2nd Ed.). Toronto, ON: Registered Nurses' Association of Ontario. http://rnao.ca/bpg/resources/toolkit-implementation-best-practice-guidelines-second-edition

Rempher, K.J. (2007) How to appraise quantitative research articles. *American Nurse Today* pp.26-28

Sackett, D. L., Rosenberg, W. M. C., Gray, M. J. A., Haynes, B. R., & Richardson, S. W. (1996). Evidence based medicine: what it is and what it isn't. *BMJ, 312*(71).

Twycross, A. (2004) Validity and reliability – What's it all about? Part 1 Validity in quantitative studies. *Paediatric Nursing* 16(9) p.28

Twycross, A. (2004) Validity and reliability – What's it all about? Part 2 Validity in quantitative studies. *Paediatric Nursing* 16(10) p. 36

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