26788 - Learning and improvement of clinical reasoning

Información del Plan Docente

Academic Year	2017/18
Faculty / School	104 - Facultad de Medicina
Degree	304 - Degree in Medicine
ECTS	5.0
Year	5
Semester	First semester
Subject Type	Optional
Module	---

1.General information

1.1.Introduction

Ebright et al (2003, p. 631) states that health care professionals 'need to manage complexity

in the midst of a changing environment'. The failure to ensure adequate thought and clinical

reasoning can have a negative impact on a patient's condition (Aitken, 2003). According to

Levett-Jones et al (2010, p. 515) clinical reasoning is the method in which health care

professionals 'collect cues, process the information, come to an understanding of a patients'

problem or situation, plan and implement interventions, evaluate outcomes and reflect on

and learn from the process'. In basic terms, clinical reasoning is a term which describes the

process used by health professionals to make informed decisions about and solve problems

arising in patient care.

1.2.Recommendations to take this course

This subject is taught through the University of Zaragoza teaching platform: https://moodle2.unizar.es/add/

It is available for students 24hs per day, the whole year.

It is recommended to select this subject for those students who are in their fourth or fifth year of the medical degree so as to have clinical training experience.

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1.3.Context and importance of this course in the degree

Clinical reasoning in clinical practice

Health care professionals need to be flexible in their approach to decision-making and ensure continuity of care. The health care professional's ability to provide safe, high quality health care can be dependent on their ability to reason, think and judge, which can be limited by lack of experience (Benner, Hughes, & Sutphen, 2008). Simmons (2010, p. 1155) states that 'clinical reasoning is a complex cognitive process that uses formal and informal thinking strategies to gather and analyse patient information'. This process is reliant on the health care professional using both their intuition and knowledge to influence decision-making for individual client circumstances. The experience and knowledge of the health care professional is an important consideration in the consolidation of clinical reasoning. Simmons (2010) considers this by suggesting that newly qualified nurses, for example, may identify fewer cues, have difficulty identifying complex diagnosis and may not re-evaluate data as often as experienced nurses. This has the potential to have a negative impact on patient care. Hamm (1991, cited in Round, 2001) agrees that the clinical situation and the practitioner's knowledge and clinical experience could impact on the clinical reasoning employed and its efficiency. However, an individual's extensive experience could be irrelevant if faced with a situation that they have not previously been exposed to. Thompson

and McCaughan (2002) conclude that a good clinical decision is one that takes into account the current best practices, considers patient preferences and is undertaken by experienced medical students. Teaching clinical reasoning can be difficult to facilitate in an educational setting due to the lack of clinical context. Many of the traditional styles of teaching introduce decision-making processes as a method of 'pattern recognition'. This relies on the health care professional to draw upon past experiences to re-examine them in light of the 'new' clinical scenario (Boyd, 2011, p. 574). The concern with utilising some traditional decision-making processes is the use of 'checklists' to formulate clinical reasoning and decision-making and by doing so fail to apply critical analyses to evaluate outcomes (Boyd, 2011). The use of Clinical Reasoning Learning Situations (CRLS) has been increasingly adopted to address this criticism and to support the clinical teaching of necessary skills required for safe and competent practice. CRLS enables health care professionals to be exposed to clinical reasoning strategies and encourages them to explore the predisposing factors and draw upon interprofessional experience to enhance the decision-making process. This is all carried out with some prepared CRLS so that all issues can be openly explored without the time pressures that medical students face in the clinical setting. At the end medical students will develop their own CRLS.

1.4.Activities and key dates

The subject is organized in 5 theory courses and 5 clinical cases, Clinical Reasoning Learning Situations (CRLS)

Every student have to prepare a final clinical case with clinical reasoning methodology.

The subject will start on the 25th Septembre 2017.

Deadline to send tasks and Final CRLS will be 15th January 2018.

Those who were not able to finish de subject at that time, will have a new deadline to send tasks and final CRLS on the 3rd Septembre 2018.

2.Learning goals

2.1.Learning goals

1. To improve medical students' competence on clinical reasoning.

2. To teach tools to maintain medical students' competence on clinical reasoning a long their professionals development as healthcare professionals.

2.2.Importance of learning goals

In clinical practice, many medical decisions are complex and are dependent on countless internal and external factors. Therefore it is useful for medical students to follow a formal decision-making tool.

Commonly used tools include the 'Decision Tree' (Round, 2001, p. 110) and the 'Clinical Reasoning Cycle' (Levett-Jones, et al., 2010) These tools allow the health care professional to make choices through a systematic process which considers many clinical predisposing and contributing factors.

Simmons (2010) relates clinical reasoning tools as following a forward chaining process that moves sequentially through a series of logical considerations to end at a final decision. According to Jones (1988), when working through the processes of clinical reasoning the health care professional will identify a specific health problem/care need and the adoption of a clinical reasoning cycle facilitates the 'thinking' behind the clinical management plan. This has been referred by Jones (1988) as 'goal driven' patient care. We reproduce CRLS with the implementation of the cycle.

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

Relationship skills basic that the student must acquire

CB1 - Students have demonstrated knowledge and understanding in a field of study that part of the basis of general secondary education, and is typically at a level which, although it is supported by advanced textbooks, includes some aspects involving knowledge of the forefront of their field of study

CB2 Students can apply their knowledge to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study

CB3 - Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical

CB4 - Students can communicate information, ideas, problems and solutions to an audience both skilled and unskilled

CB5 - Students have developed those learning skills necessary to undertake further studies with a high degree of autonomy

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

5.Methodology, learning tasks, syllabus and resources

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5.1.Methodological overview

6 Theoretical and practical modules: clinical reasoning and CRL (Clinical Reasoning Learning) sessions, learning clinical reasoning errors in the process of reasoning, clinical interview, use of diagnostic tests, rational prescribing

5 clinical cases with CRL session structure.

End of course work: developing an CRL session with a case itself

Teaching-learning methodology

Study of materials for each module. Participation in discussion forum, reading a scientific article and comment it into the forum in each module. Complete a test of 10 questions per module (8/10 min). To perform 5 CRL clinical cases and prepare and present a final case in CRL format. Therefore, to work on clinical cases and promote personal reflection to apply CRL methodology in any clinical case.

Number of Credits

ECTS = 5 (150 hours)

18 hours a theoretical and practical module: 8 hours to study theory, 5 hours reading articles, web pages and preparation of summaries, 4 hours of participation in the forum, one hour for self-assessment test (18 * 6 = 108)

3 hours for each of the clinical cases (3 * 5 = 15).

27 hours of personal work for the final review of cases from previous years and design and development of the final event of ARC itself.

Clinical Reasoning (CR) is a cross competence for any medical-surgical speciality into the medical degree. The most efficient way to acquire this competence is when the specific knowledge of clinical subjects are acquired and these knowledge has to be used in the clinical patient contact through rotations in hospitals and health centres. As soon as the methodology is used, greater the benefit for the students to improve their competence in clinical reasoning.

The combination of CR methodology with the acquisition of knowledge allows students to begin to develop their own action scripts for the diagnosis and treatment process. Hence the temporary location should be between 4 and 6 grade year.

The course takes place in the Digital Teaching Ring. The course has 6 theoretical and 5 practical modules. The 5 clinical cases and a personal final work of developing a clinical case with ARC methodology (Learning Clinical Reasoning) .There is a forum for discussion per module, a required reading per module with comment and self-assessment test for each module. It is essential to pass the test and send the summary of the articles in each module to move to the next one. Students must make 5 prewritten clinical cases and submit their own clinical case as final work.

5.2.Learning tasks

Personal study of materials

Personal Reflection on particular scientific papers

Forum discussions

CRL session: clinical reasoning learning sessions

Final CRL case created and performed by the students.

5.3.Syllabus

1. Development of theoretical and practical modules from 25 September to 18 December 2017

2. Development of a clinical cases with practical learning methodology of clinical reasoning from December 18th until January 15th, 2018.

Scheduled sessions and presentation of works as follows:

THEORETICAL MODULE 1. Professor Maria Pilar Astier - pastier@unizar.es

Objective: 1. Clinical reasoning: concepts and models of knowledge organization.

Start date of this module: September 25, 2017

THEORETICAL MODULE 2. Professor Maria Pilar Astier - pastier@unizar.es

Objective: 1. Frequent Errors in the process of reasoning.

Start date of this module: October 3, 2017

THEORETICAL MODULE 3. Professor Maria Pilar Astier - pastier@unizar.es

Objective 1. To Know and enhance clinical tools to improve clinical reasoning process.

Start date of this module: October 10, 2017

THEORETICAL MODULE 4. Professor Maria Pilar Astier - pastier@unizar.es

Objectives: 1. To know the methodology of the clinical interview. 2. How to properly manage the clinical interview to improve clinical reasoning process.

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Start date of this module: October 17, 2017

THEORETICAL MODULE 5. Professor Javier Sangrós e-mail: jsangros@unizar.es

Objectives: 1. Understand the basic interpretation of diagnostic tests to improve our clinical reasoning process.

Start date of this module: October 24, 2017

THEORETICAL MODULE 6. Professor Maria Pilar Astier Peña - Email: pastier@unizar.es

Objectives: 1. Develop skills for the reasoning of the treatment decision.

Start date of this module: November 7, 2017

CLINICAL REASONING LEARNING SITUATION (CRLS) No. 1. Professor Maria Teresa Delgado Email: maitedelgadom@gmail.com

Objectives: Apply the clinical reasoning process in a sequence considering a particular clinical case.

Start date of this module: November 14, 2017

CLINICAL REASONING LEARNING SITUATION (CRLS) No. 2. Professor Maria Teresa Delgado Email: maitedelgadom@gmail.com

Objectives: Apply the clinical reasoning process in a clinical case.

Start date of this module: November 21, 2017

CLINICAL REASONING LEARNING SITUATION (CRLS) No. 3. Professor Javier Sangros E-mail: jsangros@unizar.es

Start date of this module: November 28, 2017

CLINICAL REASONING LEARNING SITUATION (CRLS). Professor Maria Pilar Peña Astier. Email: pastier@unizar.es

Objectives: Case to deepen the clinical reasoning of abdominal pain

Subjects: Clinical Reasoning acute abdominal pain

Activities: Answering the questions of the case make learning personal reflection

Start date of this module: December 5, 2017

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CLINICAL REASONING LEARNING SITUATION (CRLS) No. 5. Professor Maria Pilar Peña Astier. Email: pastier@unizar.es

Objectives: Case to deepen joint pain clinical reasoning versus somatic pain

Topics: Clinical Reasoning joints pain versus somatic

Activities: To answer the questions of a case. To make learning personal reflection

Start date of this module: December 12, 2017

FINAL CLINICAL REASONING LEARNING SITUATION (CRLS):

Objectives: To create and conduct a clinical case explaining the clinical reasoning process that has been followed in the diagnostic phase, application of testing and a more likely approach to diagnosis and treatment.

Start date of this module: December 19, 2017

DATE OF COURSE WILL BE ENDING 15 JANUARY 2018.

DATE OF COMPLETION IN EXTRAORDINARY OPTION: SEPTEMBER 3, 2018

ALL MODULES DEVELOPED IN THE DIGITAL TEACHING WEB ACCESS (ADD) ZARAGOZA UNIVERSITY MOODLE: https://moodle2.unizar.es/add/

5.4.Course planning and calendar

CALENDAR 2017-2018

WEEKS	TASKS
25/09 al 1/10/2017	Module 1: concepts and models in clinical reasoning
2/10 al 8/10/2017	Module 2: clinical reasoning and patient safety
9/10 al 15/10/2017	LOCAL FESTIVITIES
16/10 al 22/10/2017	Module 3: activities to improve clinical reasoning

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23/10 al 29/10/2017	Module 4: clinical reasoning in clinical setting: doctor-patient encounter
30/10 al 5/11/2017	Modulo 5: clinical reasoning and complementary tests
6/11 al 12/11/2017	Módulo 6: reasoning prescription
13/11 al 19/11/2017	Clinical Reasoning Learning Situation (CRLS) 1
20/11 al 26/11/2017	Clinical Reasoning Learning Situation (CRLS) 2
27/11 al 03/12/2017	Clinical Reasoning Learning Situation (CRLS) 3
04/12 al 10/12/2017	Clinical Reasoning Learning Situation (CRLS) 4
11/12 al 17/12/2017	Clinical Reasoning Learning Situation (CRLS) 5
18/12/2017 al 14/01/2018	Developing Clinical Reasoning Learning Situation (CRLS) from students' experiences.
15/01/2018	Deadline to complete tasks and CRLS.

El curso se impartirá en ADD Unizar, plataforma Moodle 2.0.

Recomendaciones:

- Cada alumno enviará las opiniones de los módulos teóricos al foro para estimular el debate. El resumen en word junto con una reflexión personal se realizará adjuntará como tarea.

- Cada alumno enviará los trabajos de los casos clínicos como tarea en cada caso y al foro enviará un comentario sobre la metodología del caso en cuanto a qué añadiría o qué cambiaría.

- Cada alumno enviara el caso final como tarea de ese módulo

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El curso terminará el 30 de enero de 2018 con el acta final de notas. Para aquellas personas que no puedan realizar el curso en las fechas propuestas o que no lo terminen, el curso quedará como NO realizado y tendrán una nueva oportunidad de realizarlo desde el mes de junio de 2018 hasta el 3 de septiembre de 2018.

5.5.Bibliography and recommended resources

Manejo de bibliografía específica en relación con la mejora del razonamiento clínico:

Libros de referencia:

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study of an instructional intervention of forward an backward reasoning. Cognition and instruction. 1999; 17: 433-48

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- Eva, K.V., "What every teacher needs to know about clinical reasoning", Med Educ, 39, 2004, 98-106.

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- Monográfico de la Revista Clínica Electrónica en Atención Primaria número 17 sobre Razonamiento Clínico con los siguientes trabajos publicados https://ddd.uab.cat/pub/rceap/rceap_a2009m5n17/rceap_a2009m5n17a2.pdf.

- INTERNATIONAL SOCIETY TO IMPROVE DIAGNOSIS IN MEDICINE: https://www.improvediagnosis.org/

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British Medical Journal Supplement Articles

  o [Advancing the Research Agenda for Diagnostic Error Reduction](#)
  o [Better Diagnostics Performance: A Human Factors Perspective](#)
  o [Cognitive Debiasing 1: Origins of Bias and Theory of Debiasing](#)
  o [Cognitive Debiasing 2: Impediments to and Strategies for Change](#)
  o [How Much Diagnostic Safety Can We Afford, and How Should We Decide?](#)
  o [When Diagnostic Testing Leads to Harm: A New Outcomes-Based Approach for Laboratory Medicine](#)
  o [Educational Agenda for Diagnostic Error Reduction](#)
  o [The Incidence of Diagnostic Error in Medicine](#)
  o [The Patient Is In: Patient Involvement Strategies for Diagnostic Error Mitigation](#)
  o [The Use of Health Information Technology to Reduce Diagnostic Errors](#)