

Clinical Reasoning Learning Sessions in COVID 19 Pandemic

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ABSTRACT

Clinical reasoning teaching is an approach educational method based on learning and contextualized and synthesis education. The aim of this study was to determine the value of clinical reasoning teaching sessions, from the perspective of third year medical students using a self-administered questionnaire. One group of ten students participated in this study. They had clinical case sessions during three weeks. An anonymous evaluation self-administered questionnaire was submitted to the students at the end of the period. The average scores given by students for the items “quality of education”, “atmosphere”, “interest in teaching sessions” and “acquisition of new clinical knowledge” were greater than 7/10. All students opted for clinical reasoning teaching as the preferred teaching method for optimal memorization and have found a real contribution of reasoning teaching in the management of relationship with the patient. Clinical reasoning teaching session appears to be widely desired by medical students.

Keywords: Clinical Reasoning, COVID 19 Pandemic, Radiology, Sessions Learning

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I. INTRODUCTION

The 2019 novel coronavirus (2019-nCoV or officially named by the World Health Organization as COVID-19) is a viral respiratory illness, was firstly reported in Wuhan, Hubei Province, China, and rapidly spreads as a pandemic (Phillip *et al.*, 2020). As for the rest of the world, Morocco is one of the countries actively fighting the COVID-19 pandemic.

In line with the government's response to the current coronavirus health crisis, all schools and faculties have closed. This closure is being extended as long as necessary depending on the evolution of the situation and government measures.

Faced with this unprecedented situation, the teaching teams are mobilized to adapt the methods and schedule of teaching based exclusively on distance learning courses. The priority is to ensure that the acquisition of skills and the future of students are not impacted by the situation. Quickly the various pedagogical managers have put in place tools that allow them to provide all the theoretical courses at a distance (O'Doherty *et al.*, 2018).

However, medical students must do practical training based on internships, so our faculty has proposed several teaching methods such as teaching clinical reasoning while waiting to resume their clinical internship.

Through this survey, we have highlighted the evaluation of the method of teaching clinical reasoning by students as well as its contribution to the acquisition of new skills especially in this particular epidemiological context.

II. METHODOLOGY

A. Type of Study

It is a mixed method quantitative - descriptive transversal method - coupled with a qualitative study based on open-ended question to explore the elements involved in evaluation of the interest of clinical reasoning learning (CRL) sessions in radiology.

B. Study Population

A group of ten students participated in this survey. Given the current state of COVID, the students received their theoretical courses in radiology and after clinical case sessions of typical radiological aspects of different organs in small groups in three continuous weeks.

C. Objectives

The objectives of the CRL sessions in radiology are to allow students to make diagnostic hypotheses about a clinical data collection, to indicate the appropriate radiological assessment, to interpret the radiological

imaging and to finally make the final diagnosis.

D. Scenario Development of Clinical Reasoning Learning Sessions (CRL)

During each CRL session, a context is recreated around a typical clinical situation that simulates the consultation of a patient in an emergency room, under the supervision of a teacher who guides the clinical reasoning process, stimulates, assists and corrects the elements in the management reflection.

The course of the session is made up of different stages: contextualization, decontextualization or synthesis and self-evaluation of the student's learning. During the clinical case sessions, the students participated in a total of six CRL sessions, twice session's a week.

In our study, each CRL session took place with two students in a simulation center under the supervision of the same teacher. This teacher had received teacher training on CRL in the medical education interuniversity diploma.

Scenarios were prepared prior to the session and chosen according to the themes taught prior to the faculty. They were typical clinical situations in radiology (trauma, febrile and non-febrile meningeal syndrome).

A student had previously read the clinical scenario already developed for each CRL session and played the role of the standardized patient. Two students took the role of the clinician.

The other students observe the development of the scenarios with preparation of remarks and questions.

III. RESULTS

A. Study Population

Of these 10 students, 8 were female, gender - ratio of 0.25.

B. Overall Evaluation of Teaching per Session of CRL

Concerning the management of the relationship with the patient, 8 students found a real contribution of the sessions of CRL.

9 students felt that the CRL sessions were a definite help in completing the anamnesis and 10 students felt that these sessions were a definite help in synthesizing diagnostic hypotheses.

All the students said that these sessions were of great benefit for learning knowledge medical imaging indication and interpretation.

As for the effect of the various teaching aids in the optimal memorization of information, all students opt for CRL sessions as a preferred teaching method in the optimal memorization of information.

All students assumed that clinical reasoning session should be more frequently used during the COVID 19 pandemic period, given the suspension of internships.

C. Student Evaluation of the Medical Scenario Presented during the CRL Sessions

The exposed health problem has solved by following the interest and motivation in the CRL method among all of the students. The scenarios chosen were adapted to their

theoretical learning and clinical context in an emergency department consultation.

The students found this learning method to be very close to clinical practice and should be done in parallel with the clinical practicum especially in the current context of the COVID-19 pandemic.

IV. DISCUSSION

Training in clinical reasoning is lacking in classical teaching techniques (clinical cases, presentations of observations). Clinical Reasoning Training (CRT) is an original method, close to role-playing, which makes it possible to overcome this deficiency by having a "data provider" student play the role of a patient who will be questioned by "interviewer" students, all supervised by a "monitor" teacher-clinician (Des Marchais *et al.*, 1992; Chamberland *et al.*, 1992; Chamberland, 1998; Chamberland *et al.*, 2001).

Several studies (Chamberland *et al.*, 2001; Sellam, 2012) have evaluated the impact of this method on student learning and it is clearly shown that it allows the student, as a complement to the clinical placements, to develop his or her reasoning in the face of a clinical situation. Studies concerning the interest of the student's point of view are much rarer (Chamberland *et al.*, 1992). The objective of this study was to assess whether CRL teaching enabled students (in their opinion) to acquire skills and whether they declared that they were interested in this type of teaching during the COVID 19 pandemic period, given the suspension of internships.

It is clear and obvious that the CRL cannot replace internships, but it appears that this method of teaching seems to be very much appreciated by the students interviewed. Since all the students believe that they acquire skills through CRL, 90% said they see a major interest in this type of teaching. The overall evaluation of the teaching shows that the students appreciate it because the atmosphere and the workload demanded by CRL are manageable (Chamberland, 1994-1995).

Indeed, the quality of instruction in the CRL session is highly correlated with skill acquisition. This point raises the importance of the preparation of the CRL session (Zairi, 2017) and the importance of the quality of the instructor's intervention during the session.

V. CONCLUSION

Learning Clinical Reasoning (LCR) is a teaching method based on contextualized learning and teaching. It is a simple and easily achievable method with an important pedagogical contribution. Its role is not to replace practical teaching but to complement it in the training of medical students, especially in the context of the COVID 19 pandemic.

CONFLICT OF INTEREST

Authors declare that they do not have any conflict of interest.

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