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SKILLS IN CLINICAL COMMUNICATION: ARE WE CORRECTLY ASSESSING THEM AT UNDERGRADUATE LEVEL?

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Abstract

Traditional learning and assessment systems are overwhelmed when it comes to addressing the complex and multi-dimensional problems of clinical communication and professional practice.

This paper shows results of a training program in clinical communication under Problem Based Learning (PBL) methodology and correlation between student self-assessment and teachers assessment.

This involves a qualitative-quantitative cross-sectional study in usual practice in the 2nd year of the degree in Medicine.

Teaching methodology is PBL, including 15 associate professors and 90 students. Educational tools for learning: PBL cases and seminars (video recorded, theoretical-practical lectures). Assessment tools: Tutorials on those cases worked on PBL (40%), knowledge test (30%), assessment of a case with PBL methodology (20%) and video recording report (10%). Communication skills are evidenced by CICCA-D scale (Connect-Understand-Identify-Agree-Help-Decision). Variables: academic performance, score on CICCA-D and academic methodological assessment. The analysis is carried out using descriptive statistics, calculating the intra-class correlation coefficients and weighted Kappa index with quadratic weights. 92.2% of students passed the course on the first round. In a range between 0 and 34 points students' self-assessment scored 13 (SD ± 5) points and teachers' 16 (SD ±7). A weak (21% - 41%) or poor (< 20%) correlation was obtained between teachers and students for all questions on CICCA-D.

The authors suggest a summative assessment using different instruments and techniques to assess clinical communication skills from the first year onwards, and highlight the key role of self-assessment, peer assessment and the use of video recording techniques along with feedback in formative assessment.

Keywords – Communicational Skills, Assessment, Undergraduate, Medical Education.

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1 INTRODUCTION

Communication is an essential component of the skill required from medical professionals. Communicating with the patient in clinical practice refers to the way in which the doctor and the patient interact both verbally and nonverbally in order to achieve a shared understanding of problems and solutions. Basic communicative tasks in a clinical setting could be summarised as follows: empathising with the patient and family, defining health problems, agreeing on the decisions to be made and the actions to be taken in order to address their health

problems, helping the patient and their families how to understand, make choices and act at all times. Good communication in the doctor-patient relationship is associated with better clinical outcomes, increased patient and professional satisfaction and, ultimately, good professional practice (Dwamena et al., 2012; Cannarella Lorenzetti, Jacques, Donovan, Cottrell and Buck, 2013; Fawole et al., 2013; Schofield, Green & Creed, 2008; Street, Makoul, Arora, & Epstein, 2009; General Medical Council Tomorrow's Doctors, 2001; Prat et al., 2004). Clinical communication skills as such are likely to be taught, learned and assessed (Cleries, 2010).

Clinical communication has been considered as one of the essential skills to be developed by doctors for the last quarter of a century (Brown, 2008) and this has been introduced sporadically in a number of university education programs over the last 20 years. However, the development and implementation of the European Higher Education Area (EHEA) has presented an opportunity in relation to the need to include communication aspects in medical degree training programs (Cleries, 2010; Michaud, 2012; Kiessling & Langewitz, 2013). An official recommendation has been in place in Spain since 2008, highlighting the importance of incorporating clinical communication content into the development of medicine degree curricula (Order- Ministry of Education and Science/332/2008). Only 15 out of the 32 Faculties of Medicine in Spain include training in clinical communication on the curriculum, while there is also no objective set for standardised assessment teaching methodology. A European consensus for teaching clinical communication to health professionals was recently published in an attempt to highlight its importance as a clinical skill and to avoid variability in its teaching (Bachmann et al., 2013).

The best strategies for the learning of clinical communication seem to be those that include role playing (with and without simulated patients), teacher feedback with videotaping of consultations (with and without simulated patients) and discussion in small groups (Bachmann, et al., 2011; Ruiz -Moral, 2003; Moore, Gómez & Kurtz, 2012; Deveugele, Derese, De Maesschalck, Willems, Van Driel & De Maeseneer, 2005). The teaching community has the commitment and the challenge of obtaining evidence of how students develop clinical skills that are not measurable as a simple sum of knowledge, skills and attitudes. The student must show "what he/she knows" (basic knowledge of clinical communication theory), "that he/she knows how to" (applied knowledge), "that he/she shows how" ("in vitro" with simulated patients or the Clinical Skills Laboratory) and finally "what he/she does" (clinical skills "in vivo" with patients and real situations). Another very relevant aspect is the inclusion of formative assessment activities ("feedback") as a means of guiding and enhancing learning. The characteristics of the clinical skills assessments and the "medical professionalism" should be those that are required for any assessment: validity, reliability, transparency, acceptability, feasibility and having educational impact. In this regard, we have designed, validated and implemented various instruments that reveal, among other things, the skills acquired in clinical communication: portfolios (Figueras & Martínez Carretero, 2006), objective and structured clinical evaluation (OSCE) (Toledo García, Fernández Ortega, Trejo Mejía, Grijalva & Gómez Clavelina, 2002; Kronfly, Ricarte, Juncosa & Martínez-Carretero, 2007), direct observation of practice (with real or simulated patients), analysis of video recordings (Baribeau, Mukovozov, Sabljic, Eva & Delottinville, 2012), evaluative scales and checklist (Cleries 2010; Gavilán, Ruiz-Moral, Pérula de Torres & Parras Rejano, 2010; Ruiz-Moral, Prados Castillejo, Alba Jurado, Bellón Saameño & Pérula de Torres, 2001). One of the challenges faced by the teaching community is determining which or what combination of these instruments allows us to effectively assess the degree of communication skills acquired in future medical professionals at each stage of learning.

The aim of this paper is to share the innovative teaching experience in teaching and assessment of communication skills and clinical interviewing in medical degree courses at the University of Girona (UdG) among the teaching community, demonstrating the learning system learning-assessment design and results of the same.

2 METHOD DESCRIPTION

The learning methodology used and the results of student assessment of Clinical Communication Module of 2nd year Medical Degree at the UDG, Catalonia, Spain (year 2011-2012) are presented. This involves a qualitative and quantitative transversal descriptive study under normal practice conditions.

2.1 Subjects

The communication skills and clinical interview module at the University of Girona is taught in the 2nd year of the degree in Medicine with a study load of 6 ECTS (European Credit Transfer and Accumulation System credits)

per student and 24 credits for teaching and research staff (PDI in Spanish), which are shared among 15 associate professors who perform the work of facilitator tutor. There are between 90 and 130 students in each year. The study load is spread out over four weeks. The methodology used is Problem Based Learning (PBL) (Branda, 2009). The study load is taught over four weeks. Analysis of 90 students were included (N: 90). During the study there were no losses to follow up.

2.2 Learning and Assessment System

2.2.1 The learning educational instruments used are:

- PBL Cases: Cases will be worked on using the PBL methodology in groups of 10 students during three 2-hour sessions. A total of 4 cases with different communication scenarios will be worked on during the year. Each PBL case has defined learning objectives in relation to the skills students should develop during the module.
- Video recorded lectures: Each student is filmed in a clinical setting recreated in the Clinical Skills Centre, where they are presented with a clinical interview with simulated patients. Each student makes a critical analysis of both the positive points and those parts of his/her intervention that could be improved. A later session is carried out with the tutor and the PBL group in which each student can voluntarily analyse his/her interview and carry out a feedback session. Subsequently, students are offered the option of personalised feedback for those who did not participate in this in the group.
- Theory-practical lectures: Viewing video recordings, role-playing and feedback group sessions.

2.2.2 The assessment educational instruments used are:

The assessment of acquired skills forms part of the learning process itself and consists of the following:

- Tutorials on those cases worked on using PBL methodology: The PBL group, the students themselves and the tutor evaluate the learning skills, communication skills, responsibility of teamwork and inter-professional relationships. The assessment is consists of a series of 20 items evaluated in a Likert scale from 0 to 5 points. As a result, each student manages to gain perspective from the self-assessment, peer assessment and assessment received from the tutor.
- Skills exam: After viewing a video recording, a skills development test is carried out using short questions.
- Assessment of a case with PBL methodology: A case is presented via a video recording. The student must choose two topics, justifying the study relating it to the objectives content and the case. The following day, the student is asked questions about those areas of interest selected.
- Video recording report: Students draft a self-evaluative report of the communicative aspects of the clinical interview performed in a clinical simulation setting during which, they had to conduct an interview with a simulated patient.

The final assessment was obtained from the sum of (I+II+III+IV): Continuous evaluation of PBL Cases (40%), exam test after viewing a video recording (30%), assessment of a case with PBL methodology (20%) and a self-evaluative report of a video recording report (10%). In order to pass, the student must obtain a pass mark in each of the 4 assessment tests performed, with the option of retaking each of the four tasks proposed for the assessment if the minimum grade required is not first achieved.

2.3 Test used for research purposes

In order to assess the use of a communication skills evaluative questionnaire in our context, students and tutors were voluntarily invited to use the CICCA-D scale (Connect-Understand-Identify-Agree-Help-decision) when assessing the video recording. The CICCA-D scale comprises 17 items and consists of a tool focused on the assessment of the patient's participation in the decision-making process (Gavilán et al., 2010; Moral & Pérula, 2006). The CICCA-D is based on the patient-centred interview model. The 17 items of the scale are grouped into three components:

- Component 1- IDENTIFYING AND UNDERSTANDING THE PROBLEMS
- Component 2- AGREEING AND HELPING TO ACT

- Component 3- DECISIONS WITH OPTIONS

Each item is assigned a value of between 0 (no presence of the item in the video recording) and 2 (intense or consolidated presence).

Students and tutors are voluntarily invited to use the CICCA-D scale in the feedback training session of the video recording that they will later use for this work. This test was for research purposes only rather than being considered for the summative assessment of the students and this was explicitly explained to students and teachers alike.

Scores and reports contributed by the teachers and students during the PBL tutorials were used to assess the level of satisfaction with the teaching methodology throughout the 4-week module.

2.4 Variables and measurements:

- Academic performance: Percentage of passes and scores obtained
- Academic methodology assessment: the teachers and coordinators of the module analysed the conclusions exposed at the end of module assessment meetings.
- Communicational and clinical relationship aspects: Score obtained in the CICCA-D scale

2.5 Statistical analysis

A database was built in ACCESS-Microsoft for the processing of data from the CICCA-D survey and questionnaires were recorded by a research assistant.

The analysis is carried out using descriptive statistics, calculating the intra-class correlation coefficients and weighted kappa index with quadratic weights. The Stata / SE Version 12.1 I.T. program was used (StataCorp, Collage Station, TX, USA).

2.6 Ethical aspects

The confidentiality of personal data was respected during the handling of all the material and verbal consent was sought from students, teachers and simulated patients to be used for research purposes. The analytical processing of the results of the CICCA-D questionnaires was carried out on an anonymised basis, making it impossible to relate the answers with students who provided them. The video recordings used were destroyed once the study was completed.

3 EXPERIMENTAL DATES AND RESULTS

90 students enrolled and completed the full module. The percentage of passes obtained in the first round (2011-2012 academic year) was 92.2% (83 students) (Table 1).

Score	***P***	***Percentage***
Excellent	*8*	*8.8 %*
Good	*65*	*72.2 %*
Pass	*10*	*11.1 %*
Fail	*7*	*8.8%*
TOTAL	*90*	*100 %*

Table 1. Distribution of scores of students from the University of Girona communication module (Year 2011-2012)

A systematic and literal transcription of the scores and comments from the tutoring records was carried out to evaluate the academic methodology (Table 2).

Student opinions	***Tutor opinions***
Uncertainty in terms of self-learning management and the development of minimum skills.	*The evaluator model used requires a significant amount of organizational structure.*
The difficulty in objective assessment with the Likert scales from the PBL tutorials stands out.	*The assessment model used implies a greater amount of time used.*
Difficulty in addressing the PBL exam, especially in the justification section of topics to be developed.	*The assessment model used requires prior training of teachers.*
Positive assessment of the formative nature of self-assessment.	*Difficulty performing summative assessment of intangible skills.*
The CICCA-D questionnaire is perceived to be of little use in the first few academic years.	*Raises the need for a specific clinical communication scale for undergraduate level.*

Table 2. Qualitative assessment of students and tutors and teaching and evaluative methodology employed

We conducted a narrative analysis of the information and the results were discussed with the entire research team. 49 student self-assessment questionnaires (54.4%) and 57 teachers assessment (63.3%) were recovered in terms of the CICCA-D questionnaire. In a range between 0 and 34 points, the student self-assessments registered mean of 13 (SD ± 5) points, while the assessments carried out by the tutors showed a mean of 16 (SD ± 7) points. The agreement between students and teachers could only be measured in the 47 evaluations that were available from both evaluations. A weak (21% -41%) or poor (<20%) correlation was obtained for all the questions. No correlation between teachers and students was found in 4 items (Table 3). Table 4 shows the best and worst aspects assessed by students and teachers.

STUDENT-TEACHER CORRELATION (Score= 47)	***Score***	***k***	***IC 95%***	***Correlation***
Component 1º.- IDENTIFYING AND UNDERSTANDING THE PROBLEMS				
1. - To what extent has the practitioner explored the emotions and / or feelings that the symptom, treatment or proposal process has provoked in the patient?	*44*	*0.26*	*[0.10; 0.52]*	*weak*
2.- To what extent has the professional explored the expectations the patient has for this consultation?	*45*	*0.30*	*[0.07; 0.52]*	*weak*
Component 2º.- AGREING AND HELPING TO ACT				
3.- - To what extent does the professional try to explain the process or the main symptom presented by the patient?	*35*	*-0.10*	*[-0.22; 0.10]*	*None*
4.- To what extent does the professional adequately define the problem based on which decisions will be made?	*40*	*0.25*	*[0.14; 0.30]*	*weak*
5.- To what extent does the practitioner try to explain his proposed treatment?	*35*	*0.27*	*[0.17; 0.30]*	*weak*
6.- To what extent does the professional offer information tailored to the problems and needs of the patient?	*39*	*0.28*	*[-0.00; 0.41]*	*weak*
7.- To what extent does the practitioner provide the information clearly?	*42*	*0.20*	*[0.00; 0.31]*	*poor*
8.- To what extent does the practitioner offer the patient the opportunity to participate in decision making of the clinic attending him/her?	*33*	*0.15*	*[-0.01; 0.44]*	*poor*
9.- To what extent does the practitioner allow the patient to express his/her doubts?	*44*	*-0.05*	*[-0.11; 0.02]*	*None*

STUDENT-TEACHER CORRELATION (Score= 47)	***Score***	***k***	***IC 95%***	***Correlation***
10.-If any discrepancy or inconsistency has occurred between the professional and the patient, to what extent does the professional seek accord (entering into discussion and considering the views of the patient?	*25*	*0.18*	*[-0.17; 0.23]*	*poor*
11.- To what extent does the professional check that the patient has understood the information supplied?	*42*	*0.30*	*[0.11; 0.45]*	*weak*
12.- To what extent does the practitioner allow decisions to be made or indicate that one has to be made or to postpone it?	*32*	*-0.12*	*[-0.32; 0.00]*	*None*
13.- To what extent does the professional extract explicit commitments from the patient about the plan to follow?	*31*	*0.13*	*[0.00; 0.40]*	*poor*
Component 3º.- DECISIONS WITH OPTIONS				
14.- To what extent does the professional set or increase the exposure of possible options for diagnosis / treatment?	*29*	*0.32*	*[0.21; 0.66]*	*weak*
15.-To what extent does the professional provide information on the different options?	*30*	*0.06*	*[-0.16; 0.14]*	*poor*
16.- To what extent does the practitioner allow the patient to ask questions about options or the decision making process?	*34*	*0.20*	*[0.11; 0.49]*	*poor*
17.- To what extent does the practitioner explore the level of involvement that the patient wishes to have in the decision-making process?	*34*	*-0.12*	*[-0.15; -0.04]*	*None*
	n	***CCI***	***IC 95%***	
TOTAL *(from 0 to 34 points)* *K: Weighted kappa with quadratic weights* *CCI Intra-class correlation coefficient*	***47***	***0.41***	***[0.09; 0.66]***	***poor***

Table 3. Correlation between self-assessment of students and teacher assessment through CICCA-D questionnaire of the video recording

	Students (%)	***Teachers (%)***
BEST RATED ***(Strong presence during video recording)***	*To what extent does the practitioner provide the information clearly? (38%)* *To what extent has the professional explored the expectations the patient has for this consultation? (31%)* *To what extent professional allows the patient to express his doubts? (31%)*	*To what extent does the practitioner provide the information clearly? (61%)* *To what extent does the practitioner try to explain his proposed treatment? (45%)* *To what extent does the professional tries to explain the process or the main symptom presented by the patient? (39%)*
WORST RATED ***(Hardly any or no presence video recording)***	*To what extent does the professional provide information on the different options? (47%)* *To what extent does the professional check that the patient has understood the information supplied? (43%)* *To what extent professional explores the degree of involvement you want to have the patient in decision-making? (31%)*	*To what extent does the practitioner explore the level of involvement that the patient wishes to have in the decision-making process? (43%)* *To what extent does the professional extract explicit commitments from the patient about the plan to follow? (39%)* *To what extent professional gives the patient the opportunity to participate in decision-making consultation encouraging him? (36%)*

Table 4. Best and worst aspects rated by students and teachers in the use of the CICCA-D scale

4 DISCUSSION

In this study, it is suggested a dynamic assessment deals with summative and formative aspects to assess competence in clinical communication skills in the early years of the medical degree. This study shows how the combined application of different assessment instruments (PBL tutorials assessment, PBL exam, short answers test and video recording assessment with simulated patients) could be a feasible combination for the assessment of skills in clinical communication in students enrolled in the 2nd year of medicine. The limitations detected are the requirement for tutors to have prior training, the need for a significant organizational structure, the requirement for major involvement of teachers and the difficulty in carrying out a summative assessment of intangible skills. It highlights the role of self-assessment, peer assessment and feedback from the tutor during formative assessment. Despite the formative value of self-assessment using specific assessment scales, its inclusion in summative assessment was ruled out.

Authors of this work agree with previous studies that noted the need for the simultaneous use of different instruments to assess "the knowledge", "the know-how," the demonstration "how to" "and the do" in clinica communication skills (Borrell-Carrió, Clèries, Paredes-Zapata, Borrás-Andrés, Sans-Corrales & Mascort-Roca, 2012; Kiessling & Langewitz, 2013, Street & Hanneke, 2013, Berkhof, van Rijssen, Schellart, Anema & van der Beek, 2011). The challenge involves defining the combination of more effective assessment instruments for each stage of learning.

In the European Consensus on learning of Clinical Communication recently published there are a list of embraces more of an individual perspective focusing on what skills the individual student should learn (Bachmann et al., 2013). The authors believe that the combination of assessment tools suggested to allow evaluate individual clinical communication skills in the early years of the medical degree. In the review made, authors have not found any work with this combination of assessment elements.

The *PBL learning* method is effective in that it is student-centred, has a constructivist approach, it allows the development of generic skills and facilitates the development of an integrated curriculum. The PBL method has the added advantage to allow students became aware of their mistakes especially in areas of communication and knowledge sharing. The PBL method requires a certain level of prior training by teachers and, can generate some uncertainty among students above all in the early stages, in relation to the learning objectives and how they will be assessed. Another difficulty with this teaching method for tutors is the development of a valid, reliable and objective summative assessment of the work developed and knowledge acquired (Branda, 2009; Gavilán et al., 2010, Schmidt, Rotgans & Yew, 2011). In this work, a Likert scale is used in the PBL tutorial assessment by the students themselves, classmates and the tutor to assess aspects such as learning skills, group communication, responsibility and interpersonal relationships (ability to make constructive criticism, cooperative behaviour and collaborative work). The positive aspects of this assessment system is how it's equally fosters self-assessment and peer-assessment and facilitates continuous assessment by the tutor. Continuous assessment is associated with a learning effort distributed in time and more in-depth learning and greater motivation (Delgado & Oliver, 2006). The authors of this study emphasize the crucial role of these techniques in formative assessment. The assessment should go beyond the mere reproduction of knowledge and focus on the student's ability to meet new challenges and learning tasks: problem solving, construction of meaning and the development of self-learning strategies. This approach touches on the PBL exam but the problem is found in the development and validation of systems that allow the objective scoring and integration aspects that are often intangible and difficult to evaluate in summative assessment, such as cooperative work, for example. In this work, both students and tutors indicate the difficulty of carrying out a single summative assessment from PBL group work. In this work, the value assigned to the continuous assessment of PBL is 40% and this value is the same for all modules and all medical degree. Another issue to be resolved is the value that the assessment of the PBL tutorials should have in the overall assessment. Another difficulty raised by tutors in this work is the enormous consumption of time needed for this method of assessment. This perception has already been noted by other authors (Tai & Yuen, 2007).

In order to assess theoretical skills ("knowledge") in communication skills, the authors of this work propose the use of *short questions* once the video recording has been viewed, together with a PBL exam. This system is flexible and open but the problem lies in the fact that these types of questions are difficult to develop and score in a reliable manner. The authors propose peer correction and the use of correction series to increase the level of reliability, unfortunately at the cost of increased time spent working by teachers (Carreras-Barnés, 2009). A solution to this problem is the use of multiple choice questions that are however equally difficult to develop in subjects such as clinical communication involving many intangible factors (Palé-Argullos, 2010). The PBL exam

used by the authors can assess aspects such as creativity, capacity to search for and analyse information and a capacity for synthesis, skills hat have had to be worked during module development. However, their development also requires a high level of involvement by teachers while peer correction and correction on consensual templates between all tutors is equally important to increase its reliability (Norman & Schmidt, 2000). The use of the video recording of the student in a simulated situation can help assess a higher level of skills, "application knowledge" and demonstrates in vitro ("demonstrating how") their knowledge of clinical communication. This technique plays a major role in formative assessment particularly if complemented by self-assessment, peer assessment and feedback from the tutor (Jamtvedt, Young, Kritoffersen, O´Brien & Oxman, 2006). Its impact on summative assessment should be increasing as the student advances in the study of medicine and, above all, when he/she first makes contact with real clinical situations (Orientale et al., 2008).

The use of *validated scales* for the assessment of skills in clinical communication is a field of great interest because they allow the student and the tutor to individually detect learning aspects for improvement and plan a personalized learning. The fundamental problem involved in applying it to undergraduate students is that most of these scales are only validated at a post-graduate level. Another significant difficulty in the use of assessment scales is that they require prior training of both teachers and the students, which in turn requires significant time consumption for its correct application. CICCA-D is a validated test in the field at graduate level and is focused on promoting patient participation in decision-making (Gavilán et al., 2010). In our study, CICCA-D has been applied to students who have made first clinical contact. Our results indicate that by using self-efficacy scores, students studying the second year of Medicine underestimate their communications skills with simulated patients. These results are consistent with other published studies using self-assessment instruments in comparison with external scores (Lipsett, Harris & Downing, 2011; Lundquist, Shogbon, Momary & Rogers 2013, Ammentorp, Thomsen, Jarb, Holst, Holm Øvrehus & Kofoed, 2013). We believe that it cannot be used as a tool for summative assessments for testing the individual students as self-efficacy assessment. One issue to be resolved is how to involve students in the design and validation of instruments to assess clinical skills.

All these arguments suggest that the assessment combination proposed by the authors in this work may have important educational effects. The academic data and the results of opinion surveys to students and teachers are consistent with this statement.

From a functional perspective, effective communication is not just what an individual does, but what interactions achieve. Successful communication may differ from one person to another, depending on one´s perspective and situation (Street, Makoul, Arora & Epstein, 2009). This could be problematic if the evaluation of the clinical communication skill depends primarily on a checklist of demonstrated behaviours (Mazor et al., 2005). The present work was carried out in student of second course of medical degree without contact with patients therefore it was not be able to assess the real impact of clinical communication.

Thus, in response to the title of the study, the authors propose that the combination of assessments tools is very useful in assessing clinical skills in students of the first years of de degree of Medicine but insufficient if we want to assess the effects of clinical communication. In later years of medical studies involving real contact with clinical practice, it is already possible to assess whether the student communicates effectively in a real environment (the "doing") and in more complex situations, such as the delivery of bad news (Schildmann, Kupfer, Burchardi & Volmann, 2012).

The most important limitation of our study design was the non-constitution of comparison groups. For practical reasons, we were unable to randomly assign students from the same year to an intervention and a control group.

5 CONCLUSIONS

To conclude this study, the authors have suggested a dynamic assessment deals with summative and formative aspects to assess competence in clinical communication skills in the early years of the medical degree. The authors have suggested an effective summative assessment using different instruments (Continuous evaluation of PBL Cases, test exam after viewing a video recording, assessment of a case with PBL methodology and a self-evaluative report of a video recording report with simulated patients).. They authors believe that CICCA-D test cannot be used as a tool for summative assessments for testing the individual students as self-efficacy assessment. The authors highlight the key role of self-assessment, peer assessment and the use of video recording techniques along with feedback in formative assessment. With this methodology we can measure the degree of competition in clinical communication skills but not its effects. All in all, implementation of authentic

assessment strategies is seen as a tedious process to evaluate students' learning, so a more efficient assessment strategy is needed. To evaluate the effects of effective clinical communication, especially in senior students, is necessary to design and validate assessments system that involved real patients and clinical situations.

TEACHING INVOLVEMENT

Based on this work, the authors present some recommendations for the assessment of clinical communication skills during the first years of degree of Medicine. Assessment should be "fanned out" with the use of different instruments in a "spiral" effect, where there is increasing difficulty with increasing contact with the overall and clinical practice, with the involvement of all stakeholders involved. Self-assessment, peer assessment and assessment by the tutor along with feedback techniques are essential in the formative evaluation. It is necessary to train teachers in learning and assessment of clinical communication skills.

In the clinical setting, assessment by colleagues and other professionals who share care work with students such as colleagues, nurses, doctors or medical assistants (360 º assessment) can be of enormous educational value (Quest, Ander & Ratcliff, 2006). Its inclusion in the summative assessment requires the design and validation of assessment scales to decrease variability and to increase valuation objectivity (Norcini & Burch 2007). A point of particular interest is the inclusion of the assessment of communication in the doctor-patient relationship by patients using validated scales (Ruiz-Moral, Perual de Torres & Ramillo Martín, 2007). Another aspect to consider in the assessment of clinical communication and other generic skills is the role to be played Medical Education Units (Rugiero et al., 2010).

Research lines proposed are the determination of which combination of assessment instruments is right and what value each of the instruments should have in the summative assessment as a whole through randomised studies to evaluate clinical communication skills in undergraduate students. Another proposal would be to enhance the development of validation studies of assessment scales in clinical communication skills at undergraduate level that would be able to measure the impact of these educational interventions.

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AUTHORS RESUME

The present work is carried out by the group of teachers of Clinical Communication Module of the Faculty of Medicine of the University of Girona. In the group there are 6 PhD in Medicine. Note that Dr. Ferran Cordon is the coordinator of Simulation and Skills Clinics Center of Faculty of Medicine of the University of Girona. 13 professors share teaching with clinical activity (9 specialists in Family and Community Medicine and 4 specialists in Internal Medicine) in different health centers and hospitals of Girona. Most teachers also conducted training programs in the field of postgraduate training programs for resident physician. The group is formed on the other hand by biochemistry and a statistics. Most of the signatories are researches of Laboratory of Decision Sciences and Translational Medicine (TransLab Group) at the University of Girona (http://www.translabudg.org/).

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