Clinical education reflective ecological model for health science majors*

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Abstract

The clinical education is an integral part of the Health Science majors' curriculum programs of the University of Aveiro's School of Health (i.e., Nursing, Physical Therapy, Radiology, Radiotherapy and Speech-Language Pathology) and aims to develop clinical competences in order to generate excellent health care professionals. The organization was based on the Ecological Model of Clinical-Reflective Training, which was characterized by inter-institutional interaction and student's reflection on actions on a professional setting. This study encompassed two moments of clinical internships in the Nursing, Physical Therapy, Radiology and Radiotherapy majors. The Clinical Internship I provided the 123 students with a global view of the health care professional activities. The Clinical Internship II, with 119 students, developed competences of each health professional. Questionnaires with categorical scales from 1 to 5 evaluated the organization and efficiency of the two internships. The results revealed averages over 3 in all items. In conclusion, the Ecological Model of Clinical-Reflective Training was well accepted by students and clinical supervisors. Applications in the health care area were demonstrated.

Keywords: *clinical education; internship; health care training.*

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Resumo

Os estágios clínicos (ECs) são parte integrante dos planos de estudo dos vários cursos da Escola Superior de Saúde da Universidade de Aveiro (i.e., Enfermagem, Fisioterapia, Radiologia, Radioterapia e Terapia da Fala) e têm como objetivo desenvolver competências clínicas para formar um profissional de saúde por excelência. A sua organização tem como base o Modelo Ecológico de Formação Clínico-Reflexiva. A abordagem de formação caracteriza-se pela inovação, centra-se na ação-reflexão do aluno em contexto profissional, e na multidisciplinaridade dos intervenientes (docentes, supervisores e alunos). Com este artigo, divulgam-se os dois primeiros estágios dos cursos de Enfermagem, Fisioterapia e Radiologia. O Estágio Clínico I contou com 123 estudantes e o objetivo foi proporcionar uma visão global da atividade de cada profissional de saúde. O Estágio Clínico II contou com 119 estudantes e visou o desenvolvimento de competências inerentes a cada profissional de saúde. A avaliação dos ECs foi realizada através de questionários dirigidos aos supervisores e aos estudantes visando a sua percepção sobre a preparação, organização e duração dos mesmos. Os questionários incluíram escalas categoriais de 1-5 e perguntas abertas. Os resultados revelaram médias superiores a 3, em todos os itens avaliados, quer pelos supervisores quer pelos estudantes. Em conclusão, verificou-se uma grande aceitação do Modelo Ecológico de Formação Clínico-Reflexiva pelos supervisores e estudantes, bem como a sua aplicabilidade na área da saúde.

Palavras-chave: *formação em saúde; supervisão de estágios; prática profissional.*

Resumen

Las prácticas clínicas (PCs) son parte integrante de los planes de estudio de los varios cursos de la Escola Superior de Saúde de la Universidad de Aveiro (es dicir Enfermería, Fisioterapia, Radiología, Radioterapia e Logopedia) y tienen como objetivo desarollar competencias clínicas para formar un profesional sanitario. Su organización tiene como base el Modelo Ecológico de Formación Clínico-Reflexiva. El enfoque de la formación se caracteriza por la innovación, se centra en la acción-reflexión del alumno en el contexto profesional, y en la multidisciplinariedad de los participantes (docentes, supervisores y alumnos). Con este artículo se divulgan las dos primeras prácticas de los cursos de Enfermería, Fisioterapa y Radiología. La Práctica Clínica I contó con 123 estudiantes y el objetivo fue proporcionar una visión global de la actividad de cada profesional del ámbito sanitario. La Práctica Clínica II contó con 119 estudiantes y tenía como meta el desarrollo de competencias inherentes a cada profesional sanitario. La evaluación de las PCs fue realizada a través de cuestionarios dirigidos a los supervisores y a los estudiantes y pretende su percepción sobre la preparación, organización y duración de los mismos. Los cuestionarios incluían escalas categoriales del 1 al 5 y preguntas abiertas. Los resultados revelaron medias superiores a 3 en todos los ítems evaluados por los supervisores o por los estudiantes. En conclusión, se verificó una gran aceptación del Modelo Ecológico de Formación Clínico-Reflexiva por los supervisores y estudiantes, así como su aplicabilidad en el área sanitaria.

Palabras claves: *formación en salud; supervisión de prácticas; práctica profesional.*

The ecological model

Professional profile

The organization of CIs reflected the UAHSS program' philosophy and the current legislation.[4,5] This program proclaimed a professional profile with clinical professional skills based on solid knowledge and developed capabilities based on innovation, responsibility and lifelong learning. Such health care professional must work-in-team, have a critical sense, have a strong humane component, an active participation in management, teaching, self-training and research. This professional should be autonomous, reflective, and capable of decision-making (i.e. be able to manage the uncertainty and the complexity of different settings, namely in the promotion of health care either in groups or individually). Lastly, this professional should be able to promote quality health services, to involve their peers and other professionals in continuous projects as well as to monitor and evaluate their professional performance on a systematic basis. In summary, in order to achieve this professional profile students must develop a scientific, humane, technical, cultural and ethical education that will allow them to acquire essential skills for their clinical activity in several dimensions, such as, cognitive, communicational, attitudinal and technical.[6] Concerning the relevance of the CIs to the students' training, the health science curriculum program started the CIs on the first year of each health care major.

Supervision approach

The supervision approach, based on Bronfenbrenner's model of human development,[7] was adapted to clinical supervision by Alarcão & Sá-Chaves.[8] It was conceived as a structure encircling training, intending to develop personal and social skills as well as increasing a dynamic professional competency. The knowledge was built upon the ecological interaction of students in realistic scenarios, through experience, observation and rational analysis of the clinical practice. Based on the perspective of ecological development, the student experienced new situations and took on new roles as well as new responsibilities (i.e., observed, collaborated and actively participated in health care) in diverse settings. In clinical education, the student contacted with new professionals and realities, including a variety of people needing health care. Three factors – activities, roles and social interactions – presented in the micro-system, where the students found themselves, were essential to their development, generated observation and rational analysis opportunities (Figure 1).

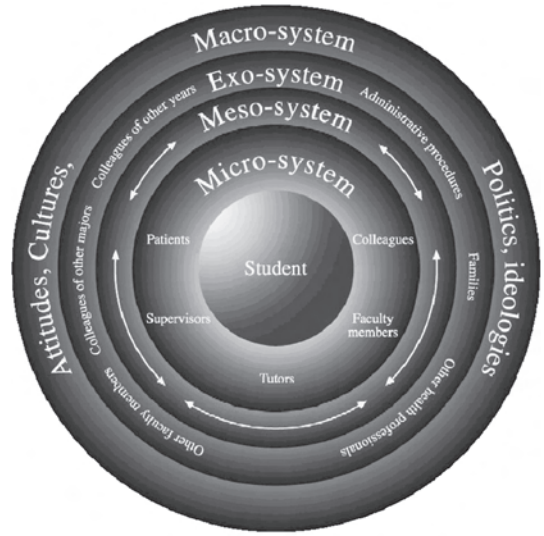

Figure 1 – Ecological Model of Clinical-Reflective Practice

Training approach

The training approach of UAHSS'S majors was characterized by innovation and multi-disciplinarity. It was centered on students' supervised interaction in the professional activity, leading them to tackle, to question and to recall the relevant acquired theories. The objective was for them to understand the real world and to develop knowledge as well as professional skills. Based on the practice epistemology, developed by Schön[9] and the experiential learning model of Kolb,[10] a training process was developed that combined action and reflection-on-action. This model emphasized a dialogue reflection on the observed and the experienced, according to a methodology of doing and learning-to-do, leading up to the active construction of the knowledge-in-action. The reflection and practice were accompanied by educators whose professional profile was a reference for students. These educators, also called clinical supervisors, interacted with the faculty

members in the organization and supervision of the CIs. To the fully licensed and certified clinical supervisors, it was offered a 90-hour-clinical-supervision program with a Specialized Pos-Graduate Certificate in Clinical Supervision.

Partnership and inter-institutional interaction

The legalization of the CIs relied on a protocol signed by the University of Aveiro and several health care institutions. UAHSS developed a networking model concerning the aspects of training, research and innovation. The inter-institutional relationship was characterized by continuous interaction between UAHSS's faculty and the health care institutions' clinical supervisors. This allowed clarification of the training concepts, planning cooperation, execution and evaluation of the CI programs resulting in responsible acts and cleared roles for the participants. Throughout meetings, access to documentation and research partnerships, this partnership model promoted personal and professional development of the intervening parties (faculty, supervisors and institutions). These exchanges strengthened the multi-disciplinarity and promoted quality health care.

Management model

The complexity of the EMCRT and its inter-institutional interactions demanded an accurate management. It was found the Internship Program Center of the UAHSS. Its objectives were: 1) to plan the CIs; 2) to manage relevant information for students, faculty and supervisors; 3) to plan and participate the clinical supervisors' continuum education and training programs (i.e., workshops, training courses); and 4) to evaluate the efficacy of each CIs and subsequent make the relevant changes.

Methods

This study investigated two moments of the CIs of four health majors: Nursing, Physical therapy, Radiology and Radiotherapy. The objective of the CI I was to provide a global view of each health care professional's activity to the student. On the other hand, the objective of the CI II was for each student to develop skills inherent to each health major. The CIs were carried out in health care units (hospitals and health centres) and in diverse clinical contexts. It involved contact with populations of different ages and social backgrounds allowing integration of interdisciplinary teams. Clinical settings were selected according to the clinical education needs and in agreement with the intended objectives of each internship.

Clinical Internship I

The CI I was a course of the first year's second semester, which was common to all four health majors of UAHSS. The clinical education objectives were for student to: 1) observe the national health care service organization in the various settings; 2) identify the role of the various health professional groups; 3) reflect on the importance of multi-disciplinary team in health care; and 4) analyse the interpersonal relationships of health professional-patient-family-community.

The CI I had the duration of two weeks for six hours a day. It took place in four types of health care settings: 1) four hospitals; 2) nine health centres; 3) nine kindergartens and 4) six homes for the elderly. Students spent two days at each setting. At the hospitals, they stayed in the Departments of Physical Therapy, Medicine, Surgery and Radiology. The last day of each week was dedicated to experience sharing, writing up a report and a personal reflection about the internship.

Participants were: 1) 11 faculty members from five health majors, 2) 40 clinical supervisors of various institutions and health areas, and 3) 123 students from the four health majors. The faculty members formed a multidisciplinary team from Physical therapy, Speech-language pathology, Radiology, Radiotherapy and Nursing areas. Their objective was to plan and implement the CI I as well as accompanied the students during the two weeks. Multiple thinking was developed on the dynamic and interactive reality of all faculty health professionals. Clinical supervisors introduced and oriented students in the clinical settings. Students were divided in multi-displinary groups of 3 or 4. The purpose was to promote a crossover of different health care professional perspectives, by mixing the students from different health majors.

The 11 faculty members prepared a guide for clinical supervisors and students to facilitate

integration and orientation of a successful and reflective learning. This guide included: 1) intended objectives of CI I, 2) student's evaluation instruments, 3) timetables with distribution of faculty members, supervisors and students per clinical setting, 4) general information about uniforms, equipment, absences, etc. Previously to the CI I, three short training courses were carried out: 1) "Clinical Supervision of Clinical Internship", which was a seminar for clinical supervisors; and 2) Two workshops, one for supervisors and another for students, called "Clinical Internship I", which provided information about the learning strategies and applied evaluation methods. At the end of the CI I, a seminar entitled "Organization and Management of the National Health Service" was organized for faculty members, clinical supervisors and students. The objective was for the students present their experiences and reflection on the CI I.

During the two-week period, faculty members visited once the clinical settings. The objective was to accompany the students' progression during the internship. They were responsible for the student's evaluation, which was both formative and cumulative. The evaluation was obtained through the students': 1) written report, 2) oral presentation and 3) individual personal reflection. The final grade resulted from the marks given to the report (80%), individual reflection (10%) and attendance (10%).

Two questionnaires were used to determine the quality of the internship: *Supervisor Evaluation* and *Student Evaluation*. The *Supervisor Evaluation Questionnaire* assessed: 1) students' academic preparation and 2) CI I's organization. The *Student Evaluation Questionnaire* assessed: 1) CI I's organization, 2) CI I's duration; and 3) availability of the hosting institution. For each item a scale of 1 to 5 ("disagree strongly" to "agree completely", respectively) was used. At the end, both questionnaires included open-ended questions concerning the positive and negative aspects of the CI I and suggestions.

Clinical Internship II

CI II was a course of the second year's first semester of all health science majors. It was the practical component of a specific theoretical module of each major. The objectives were to develop professional competences directly related to the specific thematic module of each specific health major.

CI II had the duration of three weeks for Physical therapy, Radiology and Radiotherapy majors, and four weeks for Nursing major. Students spent an average of 7 hour/day at the clinical setting. CI II took place in three types of health care settings with different characteristics, according to the intended objectives. The settings were: 1) 15 hospitals/maternities; 2) nine health centers, and 3) four private clinics. Characteristics of the thematic components and the number of clinical settings of each health science majors for the CI II can be seen in Table 1.

Participants were: 1) 11 faculty members (three from Physical therapy, five from Nursing, two from Radiology and one from Radiotherapy), 2) 70 clinical supervisors (17 physical therapists, 19 nurses, 15 radiologists and 19 radiotherapists), and 3) 119 students (26 from Physical therapy, 43 from Nursing, 22 from Radiology and 28 from Radiotherapy). Four students did not pass from the CI I to the CI II.

Table 1 – Characteristics of the thematic components and the number of clinical settings of each health science majors for the CI II

Health Major	Thematic component	Clinical Settings		
		Hospitals / Maternities	Health Centers	Private Clinics
Physical therapy	Musculoskeletal	6	0	3
Radiology	Musculoskeletal	5	0	0
Radiotherapy	Life and Health / Prevention	2	0	1
Nursing	Maternal and Child Health	2	9	0
Total		**15**	**9**	**4**

Abbreviations: CI II, Clinical Internship II.

Like the CI I, faculty members prepared a guide for clinical supervisors and students. The objective was to facilitate the integration and orientation of this reflective learning period. Three short training courses were carried out: 1) "The importance of determining operational objectives" for the clinical supervisors and 2) Two workshops "Clinical Internship II" for preparation of the clinical supervisors and students. At the end of CI II, an inter-health-major seminar took place to allow students to exchange experiences and reflections upon CI II.

During the 3-4 week period, faculty members visited 28 clinical settings twice in order to accompany the students' progression. Unlike the CI I, faculty members and clinical supervisors shared the responsibility of the students' evaluation. There were two grading instruments were: 1) CI II Evaluation Score Grid and 2) Report Evaluation Score Grid. The students' final grade was determined by the supervisors' evaluation (50%), faculty's evaluation (25%) and report marking (25%).

CI II's evaluation followed similar guidelines, objectives and materials as the CI I, i.e., *Supervisor Evaluation Questionnaire* and *Student Evaluation Questionnaire*.

Statistical analysis

This a qualitative study used a Likert scale to assess how well the EMCRT model was accepted by students and clinical supervisors in two moments of the clinical education of four majors (i.e., CI I and CI II). In order to assess the frequency of the responded items the mode and median were used however to have an understanding of the data's normal tendency the mean was used. The analysis of the questionnaires' results concerning CI I and CI II was done through descriptive statistics revealing means (M) and standard deviations (SD). The variables were analysed using the Statistical Package for the Social Sciences (SPSS) version 11.0.[11]

Results

Clinical Internship I

Supervisors' evaluation

Thirty-five questionnaires were received out of 40 handed out to the clinical supervisors (87,5%). In a scale of 1 to 5, supervisors qualified the students' preparation with a M ranging between 3.7-4.5 and a SD between 0.6-0.9 (see Table 2). Concerning the organization of the CI I, a M between 3.6-4.3 and a SD between 0.9-1.2 were obtained (see Table 3).

Table 2 – Supervisors' assessment of students' preparation for the CI I

Item evaluated	M	SD
Students used theoretical knowledge to observed intended objectives	3.7	0.9
Students were motivated	4.2	0.8
Students adapted well to the CI (punctuality, organization, behaviour and attitude)	4.5	0.6
Students demonstrated concern with ethical aspects	4.0	0.9

Abbreviations: CI I, Clinical Internship I; M, Mean; SD, Standard deviation.

Table 3 – Supervisors' assessment of CI I's organization

Item evaluated	M	SD
CI was prepared ahead of time, so the health institution could prepare the necessary means to receive the students	4.2	1.1
CI was well planned and organized	4.1	1.0
CI objectives were adequate to the health institution	4.2	0.9
The number of hours of the CI were adequate to the proposed objectives	3.6	1.2
UAHSS provided the necessary support for students' orientation	4.3	1.0
UAHSS's faculty team gave the necessary cooperation for student's orientation	4.3	0.9
The number of students per group was adequate to the institution's conditions and the proposed objectives	4.1	1.1

Abbreviations: CI I, Clinical Internship I; M, Mean; SD, Standard deviation.

Table 4 – Students' assessment of CI I's organization

Item evaluated	M	SD
Did I have the objectives ahead of time?	3.8	1.0
Were the objectives adequate to CI	3.7	0.7
Did the objectives allow integration of theoretical knowledge?	3.8	0.9
Did the faculty member prepare the CI locations as needed?	3.0	0.9
Did the faculty member integrate students?	3.1	0.9
Did the faculty member accompany students?	3.3	0.9

Abbreviations: CI I, Clinical Internship I; M, Mean; SD, Standard deviation.

Table 5 – Students' assessment of CI I's duration and availability of the hosting institution

Item evaluated	M	SD
Was the duration adequate for the proposed objectives?	3.3	1.0
Was the duration adequate for the development of student's competencies?	3.5	0.9
Was there availability from the health team to participate in the CI?	4.1	0.7
Was there availability from the supervisor to answer questions?	4.4	0.7

Abbreviations: CI I, Clinical Internship I; M, Mean; SD, Standard deviation.

The analysis of the open-ended questions' answers about positive and negative aspects confirmed numerical results, specifically, about students' preparation, motivation and short duration of the CI I. As positive aspects, supervisors emphasized the students' contact with professional reality, students' capability to work with other professionals and to develop a multi-disciplinarian view of health care. It was suggested to increase the number of hours students spent in each health care institution.

Student's evaluation

One hundred and four questionnaires were received out of 123 given to students (84.6 %). Students classified CI I's organization with a M ranging between 3.0-3.8 and a SD between 0.7-1.0 (see Table 4). Concerning the duration of CI I and the availability of the hosting institution, a M between 3.3-4.4 and a SD between 0.7-1.0 were obtained (see Table 5).

The analysis of the open-ended questions' answers revealed the importance of the students' preparation for the CI I. As positive aspects, students mentioned the multi-disciplinary composition of their groups, which allowed interaction between the health majors. Like clinical supervisors, students referred one negative, which was the short period of time spent in each placement.

Clinical Internship II

Supervisors' evaluation

Sixty-one questionnaires were received out of 70 handed out to the supervisors (87.1 %). Supervisors classified students' preparation with a M between 3.0-4.2 and a SD between 0.6-1.0 (see Table 6). Concerning the CI II's organization, a M between 3.1-4.2 and a SD between 1.1-1.5 were obtained (see Table 7).

Analysis of supervisors' answers to the open-ended questions relative to the positive aspects confirmed the numerical results. They were: 1) students' motivation and relationship with patients and other professionals, and 2) the support provided by the faculty members. The negative aspects included high number of students per institution, specifically, in Radiology and Radiotherapy health majors. It was suggested an increased number of hours, as it was in CI I.

Students' evaluation

One hundred and fourteen questionnaires were received out of 119 given to students (95.7%). Students classified CI II's organization with a M between 3.4-4.2 and a SD between 0.7-1.2 (see Table 8). Concerning the duration of CI II and the availability of the hosting institution, a M between 3.3-4.4 and a SD between 0.7-1.4 were obtained (see Table 9).

As for the positive aspects of CI II, students mentioned the contact with professional reality,

Table 6 – Supervisors' assessment of students' preparation for the CI II

Item evaluated	M	SD
Students integrated professional activities easily	3.8	0.8
Students mobilized theoretical knowledge correctly	3.0	1.0
Students were motivated	4.2	0.6
Students adapted to the CI (punctuality, working methods, organization, behaviour, and attitude)	4.2	0.6
Interpersonal relationship with patients, family and health team	3.7	0.9
Team work	3.9	0.8
Techniques and methodologies	3.3	0.9
Conveying of information to the patients for health promotion	3.1	1.0
Students demonstrated initiative	3.6	0.8
Students demonstrated critical sense	3.2	0.8
Students demonstrated concern with ethical considerations	3.5	1.0

Abbreviations: CI II, Clinical Internship II; M, Mean; SD, Standard deviation.

Table 7 – Supervisors' assessment of CI II's organization

Item evaluated	M	SD
CI was well organized	3.6	1.2
CI objectives were adequate to the health major and institution	3.6	1.3
Theoretical component taught at UAHSS was in agreement with CI	3.4	1.3
The number of hours of CI were in agreement with the proposed objectives	3.1	1.2
UAHSS provided necessary support to the supervision of students	3.8	1.3
Faculty provided necessary cooperation for students' supervision	4.2	1.1
The number of students per was adequate to the institution's conditions the proposed objectives	3.6	1.5

Abbreviations: CI II, Clinical Internship II; M, Mean; SD, Standard deviation.

Table 8 – Students' assessment of the CI II's organization

Item evaluated	M	SD
UAHSS prepared the students well for CI	3.6	0.8
The guide was well elaborated	4.0	0.7
Objectives were known in due time	3.9	0.9
Objectives were clearly formulated	3.9	0.8
Objectives were adjusted to the institution's reality	3.5	0.9
Taught theoretical component were relevant to the clinical practice	3.9	0.9
Theoretical component had practical examples that facilitate the integration in clinical practice	3.6	0.9
The depth of theoretical components was adjusted to the needs of clinical practice	3.5	0.9
Practical classes were useful for clinical practice	3.6	1.2
Faculty member prepared well the CI	4.1	0.7
Faculty member accompanied properly CI	4.2	0.7
Evaluation methodology was adequate to the CI	3.4	0.9

Abbreviations: CI II, Clinical Internship II; M, Mean; SD, Standard deviation.

Table 9 – Students' assessment of CI II's duration and availability of hosting institution

Item evaluated	M	SD
Duration was adequate to learning needs	3.3	1.0
Duration was too short	3.5	1.4
Students were integrated in the health team	4.3	0.8
There was availability of the team to guide students throughout the learning process	4.3	0.7
There was availability of all professionals to answer student's questions	4.4	0.7
The resources available were adequate to learning needs	4.1	0.7
The necessary materials were available	4.1	0.9
Working methodology in the institution was adequate to learning needs	3.8	0.7
Working methodology of the institution was in agreement with current tendencies	3.8	0.7
Supervisor coordinated and oriented the CI in his place of work	4.0	0.9
Supervisor prepared the setting to receive the students	4.0	0.9

Abbreviations: CI II, Clinical Internship II; M, Mean; SD, Standard deviation.

teamwork, supervisors welcoming and technique application allowing an increase in knowledge and personal development. The negative aspects were the duration of CI II, UAHSS's uniform and travelling expenses. Students suggested to increase the number of hours and to have only one setting for the CI II.

Discussion and conclusion

CIs were an important teaching-learning experience not just for students, but also for faculty members and clinical supervisors. Due to the fact that UAHSS was a new educational institution, faculty members worked on the conception of a supervising model, as well as on its specific planning. This way, the action and reflection about it was developed simultaneously, allowing systematic questioning and reconstructing. This was a difficult process in a new health school. The results of CI I and II's questionnaires were analyzed in terms of its positive and negative aspects, as well as the difficulties encountered in order to improve the model.

Positive aspects

All evaluated items obtained a M above 3.5, except for four items on CI II, which nonetheless obtained a assessment average above 3. In CI I, students exhibited good motivation, were well adapted to the settings, demonstrated ethical concerns and mobilized theoretical knowledge which was applied to the observational internship (i.e., CI I). In CI II, students also easily joined in the professional activities and demonstrated good interpersonal skills with patients, family and the multi-disciplinary team. In both CIs, clinical supervisors classified students' preparation and motivation as very good CIs (see Table 2 and 6).

Another positive aspect was the CIs' organization. This was classified by clinical supervisors with M over 4.1 and 3.4 for CI I and CI II, respectively. There was one exception, which was the item concerning the number of hours (i.e., both students and supervisors referred that there a reduced number of hours for the CIs' proposed objectives).

Students evaluated the availability of hosting institutions at both CIs with averages above 4. The accompaniment and availability demonstrated by supervisors and other professionals was considered very positive.

Negative aspects

CIs' duration was considered short both by students and supervisors, considering the objectives and the number of institutions. This result was hardly surprising. It is common knowledge that a professional internship is usually considered short even when it lasts for months. On the other hand, internships in health care majors are traditionally condensed into a single larger period, while UAHSS's model calls for several momentous of CIs following underlying theoretical modules, allowing for a progressive integration and application of acquired knowledge.

Radiology and Radiotherapy majors presented too many students during the CI II. This is due to the reduced available equipment in these health institutions. The solution was to increase the number of institutions that could participate in the UAHSS's CIs.

Students' evaluation of CI I, albeit positive, was lower than the supervisors' and the CI II, specifically on the organizational aspects. This was probably related to: 1) students' expectations of a more practical approach instead of observation during the CI I; 2) some communication difficulties between the hosting institutions and UAHSS; and 3) a bigger commitment to the preparation of supervisors rather than to students.

Comparing CI I and CI II

Making a comparative analysis between CI I and II, the organizational and inter-institutional cooperation aspects were considered better in CI II, both by students and supervisors. This was probably due to a more timely preparation, better communication and higher involvement of supervisors on CI II. UAHSS faculty' accompaniment of CI II was also considered better than of CI I. That was certainly due to a higher number and a better distribution of the faculty members per institutions, allowing longer contact with students and supervisors as well as more interaction between all the concerned parties. This evolution was a consequence of the evaluation and monitorization of the model. It reflected the follow up of a dynamic model where successive questioning and active participation of all involved participants leaded to reformulation.

Difficulties encountered

UAHSS was a new educational institution and started an innovative clinical supervision model: Reflective Ecological Model. This model was different from the ones followed by other institutions. CI's organization was complex, with elaborated logistics, involving health institutions with diverse locations and characteristics. Although this was predicted in the ecological model, it complicated the permanent interaction and communication. On the other hand, it involved clinical professionals from diverse areas, with different training philosophies, establishing a difficult common supervision platform for all the UAHSS's health majors. As a result of the self-regulation done after CI I, it was gratifying to observe the evolution that occurred from one CI to CI II, which consolidated the idea that only successive questioning can leaded to reformulation and improvement.

The numerical results of the four questionnaires presented a SD above 1 in some items, which could be considered high in a categorical scale from 1-5. There might be some ambiguity in the wording of some questions, such as: "Students demonstrated critical sense?", "Practical classes were useful for clinical practice?". Although these questions were relevant, they need to be reworded.

In summary, this study revealed that UAHSS's CI ecological model received good markings both in CI I and CI II, specifically, in organization and accompaniment. Both supervisors and students mentioned as very positive aspects: 1) the multi-disciplinarity, 2) the experience of new situations, 3) the claim of new roles and responsibilities. This makes this model applicable to the health care area. Findings could be used to guide research in this arena. There continues to be a great need to assess and change the clinical educational models.

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