

Design and Evaluation of a Strategy for Teaching the Role of the Family in the Development of the Individual in Medical Students

Diseño y evaluación de una estrategia para la enseñanza del papel de la familia en el desarrollo del individuo en estudiantes de medicina

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Summary

Objective: to design and evaluate a teaching strategy for medical students with the role of the family in the development of the individual, which promotes competition: “Critical thinking, clinical judgment, decision making and information management”. **Methods:** cross-sectional study. Teachers who were experts in the subject and in competencies carried out the design and elaboration of the teaching strategy. 138 first year of bachelor’s degree students and five professors from the Faculty of Medicine of the National Autonomous University of Mexico participated. Sampling was non-probabilistic by convenience. Participants assessed the effectiveness of the strategy for knowledge acquisition, as well as the skills and attitudes needed for the development of competition. **Results:** Teachers considered that the strategy favored the development of the first intermediate profile of the competition. Students noted that they achieved the learning goals, applying knowledge, and experiencing interest in the topic. **Conclusions:** the positive response of teachers and students to the strategy showed the need to implement teaching methods that promote active learning of the medical student, in order to obtain adequate training in psychological aspects of the family.

Keywords: Family, Professional Competence, Medical Education

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Resumen

Objetivo: diseñar y evaluar una estrategia de enseñanza para estudiantes de medicina con el tema el papel de la familia en el desarrollo del individuo, que promueva la competencia: “Pensamiento crítico, juicio clínico, toma de decisiones y manejo de la información”. **Métodos:** estudio transversal descriptivo. Profesores expertos en el tema y en competencias realizaron el diseño y elaboración de la estrategia de enseñanza. Participaron 138 alumnos y cinco profesores del primer año de licenciatura de la Facultad de Medicina de la Universidad Nacional Autónoma de México. El muestreo fue no probabilístico por conveniencia. Los participantes evaluaron la eficacia de la estrategia para la adquisición del conocimiento, así como las habilidades y actitudes necesarias para el desarrollo de la competencia. **Resultados:** los profesores consideraron que la estrategia favoreció el desarrollo del perfil intermedio I de la competencia. Los alumnos señalaron que alcanzaron los objetivos de aprendizaje, la aplicación del conocimiento y experimentaron interés por el tema. **Conclusiones:** la respuesta positiva de profesores y alumnos hacia la estrategia mostró la necesidad de implementar métodos de enseñanza que promuevan un aprendizaje activo del estudiante de medicina, con el propósito de obtener una adecuada formación en los aspectos psicológicos de la familia.

Palabras clave: familia, competencia profesional, educación médica

Introduction

In the study and treatment of children and teenagers the work of the physician with their families is very important.¹ For this reason it is necessary to inclu-

de in the medical school curricula the study of the family. A family must be addressed from its functions, identification of interaction problems and how it uses its psychological resources to deal with diseases,² up to the implementation of therapeutic measures aimed at reducing risk factors and promoting protective factors that are present in the family group.^{3,4}

Despite the obvious need to incorporate family study's in the curricula, this is done in few cases and generally without an appropriate approach to general practitioner training.⁵⁻⁸ In spite of the importance that the United Nations (UN) has given to family care it is still not adequately addressed in the curricula.⁹

In some higher education institutions like in Spain and Uruguay there is a subject in the undergraduate years that addresses the study of the family.¹⁰ In regards to students' acceptance of the revision of this subject, there have been favorable opinions because it gives them a comprehensive vision of the sick person.¹¹ Post, et. al.¹² questioned undergraduate students regarding integrating humanistic issues into their training. 72% of students considered that reviewing these contents was important, so the authors concluded that the teaching of contents with this perspective must be done from the pre-clinical years of medical school.¹²

The 2010 curriculum of Medicine of the Faculty of Medicine of the National Autonomous University of Mexico (FM-UNAM) tries to respond to the needs derived from the current exercise of medicine, so its objective is to train capable and competent doctors to practice general quality medicine in complex and changing environments.

Therefore, it was decided that the plan should have a competency approach, conceptualizing them as the set of knowledge, skills, attitudes and values that, interrelated with each other, allow to have an efficient professional performance.¹³

In the first phase of the career, which covers the first and second years of medical school, the subject “Introduction to Mental Health” is taught; the student is expected to reach the development of the first intermediate profile of the competencies, that include the “Critical thinking, clinical judgment, decision-making and information management” that seeks to have the student identify, select, retrieve and interpret, in a critical and reflective way, the knowledge from various sources of information for the approach to problems and possible solutions.¹³

The subject “Introduction to Mental Health” seeks to give the student knowledge and learn to integrate in his professional training the health care of the patient as a member of a family, that belongs to a community and that the recognition of the psychological functioning of families is a priority,^{13,14} so the purpose of this written document was to offer and evaluate a teaching strategy based on competencies, for the study of “The Role of the Family in the Development of the Individual”.

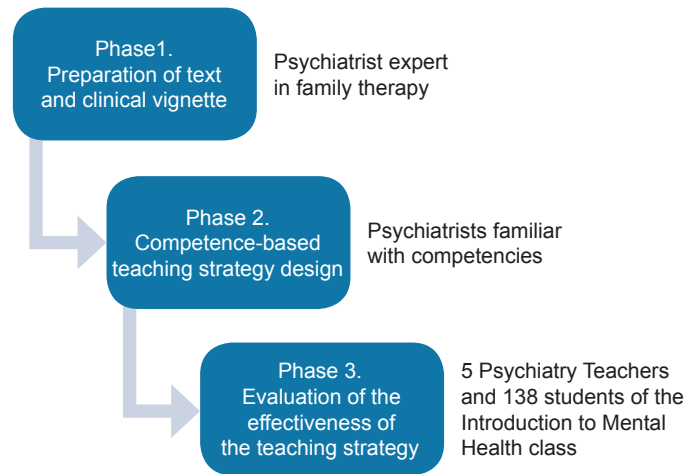
Methods

The study was conducted between August 2018 and April 2019, subject to approval by the FM-UNAM research and ethics committees.

The methodology had three phases, see Figure 1.

Phase 1. A psychiatrist, expert in family therapy, developed a text and a

Figure 1. Phases of the study



clinical vignette for the study of “The Role of the Family in the Development of the Individual”. This topic is part of the subject “Introduction to Mental Health” taught in the first year of medical school in the FM-UNAM.

Phase 2. A group of psychiatrists, familiar with competencies, designed a teaching strategy for the study of “The Role of the Family in the Development of the Individual”. The objective of the strategy was the development of Phase I, according to the 2010 curriculum in medicine in FM-UNAM, of the competition “Critical thinking, clinical judgment, decision making and information management”.

Phase 3. The effectiveness of the teaching strategy was assessed through a cross-sectional study. The population was selected in a non-probabilistic way by convenience and was integrated by 138 students who took the subject “Introduction to Mental Health” and five teachers who teach this subject. Teachers implemented the teaching strategy, on the scheduled date to ad-

dress the topic during the 2018-2019 school year. Teachers were interviewed to record their comments about the usefulness of the strategy to encourage the student to acquire knowledge and develop skills and attitudes that allow them to identify, select, retrieve and interpret in a critical and reflective way, knowledge from various sources of information for the approach to problems and possible solutions. Students were given a Likert opinion questionnaire, which questioned the usefulness and clarity of the teaching strategy for the acquisition of knowledge and the development of skills and attitudes that favored the achievement of competence.

The student opinion questionnaire showed an alpha 0.868 and an explained variance of 46.916 and was divided into 6 dimensions: 1. Achievement of the objectives, 2. Application of knowledge and professional ethics, 3. Teacher participation, 4. Clarity, development and learning when applying the strategy, 5. Structure and impact of the strategy and 6. Development of the strategy.

Results

Phase 1 and 2. Teaching strategy: Material required

1. Text “The role of the family in the development of the individual”. It can be found at the following address: <http://psiquiatria.facmed.unam.mx/docs/ism/unidad4.1.pdf>

2. Clinical vignette for the study of the subject: “The role of the family in the development of the individual”. The role of the family in a case of nocturnal secondary enuresis is presented through a systemic vision.

She is a six-year-old patient with obesity and demanding and challenging attitudes who, although two years earlier was able to control sphincters, but now presents almost daily nocturnal enuresis. In the mornings her mother scolds her and tries to bathe her, to which the patient resists, challenges her and thus arguments are triggered between the two, with eventual spanking from the angry and desperate mother.

When the mother tries to control the patient, the father intervenes to support her, invalidating his wife's authority and pleasing her daughter. The girl is very attached to her father. Clearly, there is an affective estrangement between him and his wife. The father, in turn, maintains a very close relationship with his own mother (overprotective with the child), whom he visits several times a week, accompanied only by the patient, which provokes the anger in his wife.

3. Clinical vignette questionnaire for the study of the topic "The Role of the Family in the Development of the Individual" and guide for the teacher:

a. Point out the hierarchical organization of the patient's family: (first, second and third).

First the patient, second the father and third the mother.

b. What are the alliances present in this family?

There are father-daughter partnerships and between father and the paternal grandmother. The daughter is in the triangular vortex of the conflict between the parents.

c. Describe the characteristics of the boundaries between members of this family.

There is greater closeness between father and daughter and greater remoteness between mother and daughter, as well as between the parents.

d. Describe the usual dynamics among family members.

The patient has a symptom (enuresis) with which she challenges her mother, who tries to correct her daughter. The father supports the patient instead of supporting his wife, thereby assaulting the latter and reinforcing the symptom.

e. Point out what period the family is in and explain the goals of this stage.

It is at the child education stage where safety should be fostered through external boundaries and care.

f. With regard to the child's upbringing, what are the observable errors?

Lack of coordination between parents with excessive parental gratification and excessive punitive behavior on the mother.

4. Competency Assessment Heading "Critical Thinking, Clinical Judgment, Decision Making and Information Management", see Table 1.

Dynamic. The teaching strategy was implemented in a two-hour session.

First hour: Students formed work teams, the teacher gave the introduction to the activity and distributed the materials to each team.

Second hour: The teams read the clinical case and with the help of the text "The Role of the Family in the Development of the Individual" answered the questionnaire. The teacher asked each team to present their findings to the group, and at the end of the session he conducted a brief group discussion.

Phase 3. Teaching strategy assessment

Interviews with teachers:

Five professors were included in this research, one man and four women who agreed to participate voluntarily. All were psychiatrists' professors of the subject "Introduction to Mental Health" and academics of the Department of Psychiatry and Mental Health of FM-UNAM, with an average of 33 years of teaching experience.

According to the opinion of the teachers interviewed, the students

showed enthusiasm to participate in the teaching strategy, having had an initial explanation on the part of the teacher. The five teachers agreed that the teaching strategy favored the development of skills and attitudes in the students who led them to the development of competence in the following aspects:

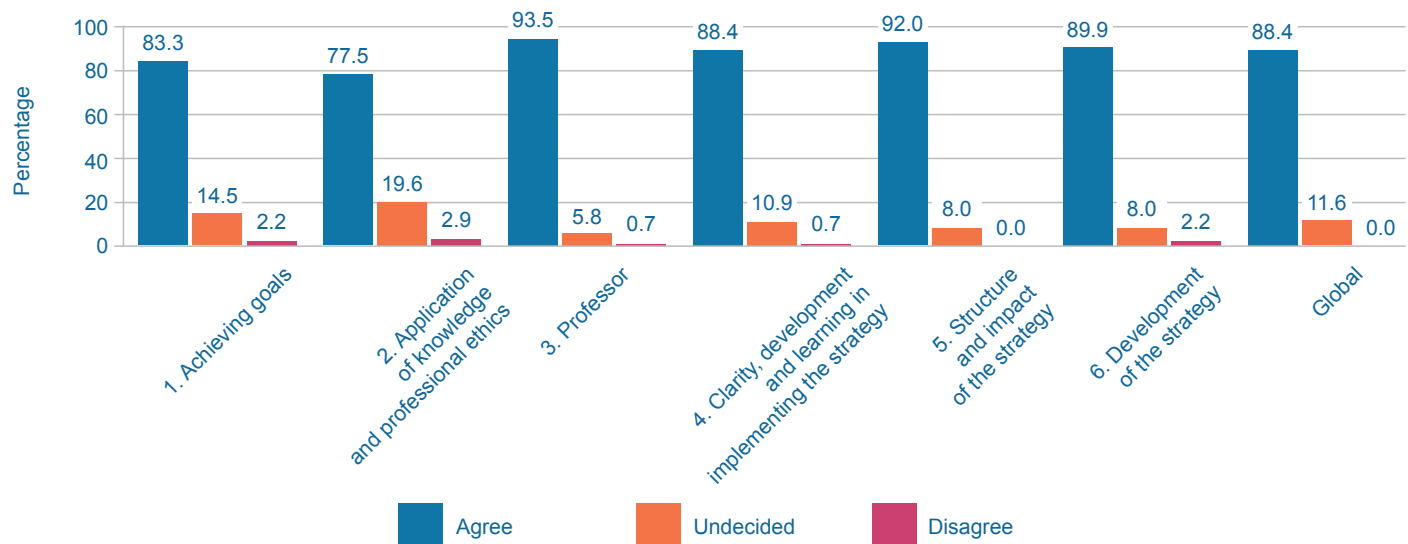
- Identification, in a critical and reflective way, of information for the approach to problems and possible solutions. According to the observations of four teachers, the teaching strategy favored students to identify, in the text provided, information relevant to understanding the subject; while the fifth, noted that some of the students did not show ease in identifying relevant information in the material.
- Selection, in a critical and reflective way, of information for the approach to problems and possible solutions. Four teachers noted that the teaching strategy favored students to select relevant clinical data from the vignette for an appropriate approach to the medical situation.
- Recovery and interpretation, in a critical and reflective way, of information for the approach of problems and possible solutions. Three teachers believed that the teaching strategy favored students with an adequate retrieval and interpretation of the information, both in the text and the vignette, so that they were able to present adequate medical behavior in the face of the clinical situation presented. The remaining teachers noted that the students were able to point out the nature of the problem without coming up with any solution.

Table. Competency Assessment Rubric Critical Thinking, Clinical Judgment, Decision Making and Information Management*

Indicators	Excellent 5	4	Good 3	2	Regular 1	Bad 0
1. Structure and organization of responses	Applies and knows all the basics of the reading		Mostly applies the basics of reading		Scarcely applies the concepts of reading, below expectations	Does not apply or know the basics of reading
2. Using the new vocabulary	Correctly applies reading vocabulary		In general, applies the new vocabulary of reading		Partially applies the new reading vocabulary	Does not apply the new reading vocabulary
3. Content analysis	Points the positive and negative aspects of the reading, or gives opinion of the reading		Recognizes the value of reading without deepening		Comments are shallow	Does not express any comments of his/her own
4. Conclusions of the reading	Conclusions are clear. The most important thing in the reading is considered		Conclusions are unclear, although they are considered the most important		Conclusions are confusing	There are no conclusions
5. Writing	Answers questions clearly and concisely		There are few errors in the wording		The wording is unclear	The wording is not built
6. Spelling	No misspellings		There are few misspellings		In less than half of the answers, misspellings are observed	Faults are present in all answers

*Scores 4 and 2 are useful when there is doubt between one parameter and another

Figure 2. Results of the opinion questionnaire applied to students who participated in the implementation of the teaching strategy



Student Opinion Questionnaire:

The study population consisted of 138 students, 60% women; all in a regular academic situation (non-repeaters) and most from public higher education institutions.

The results of the review questionnaire are shown in Figure 2.

It was found that, in the 6 dimensions of the instrument, most students agreed that the strategy was useful (77.5% to 93.5%), for the acquisition of knowledge of the subject and the development of skills and attitudes that favor the achievement of the competency; 94.9% felt motivated to apply the knowledge acquired in the solution of clinical problems, while 88.4% considered that the teaching strategy makes it easier for the teacher to apply the concepts presented with a clinical scenario. Regarding abilities and skills, 90.6% agreed that the exercise promoted the development of both items, while 93.5% agreed that the topic is better understood when using this teaching strategy.

Discussion

Competency-based education aims at developing knowledge, abilities, skills and aptitudes, in the subject of interest, that encourage the medical student to acquire the ability to use them to make decisions during medical diagnosis and problem solving.¹⁵⁻¹⁸

The importance of skills in the undergraduate in medicine has been emphasized by various authors in recognizing its benefits in medical training and finding an important acceptance by students.¹⁷⁻²¹ For more than two decades there has been a growing interest, of higher education institutions, in updating the training of the doctor

in terms of the knowledge, skills and attitudes that are indispensable to have good professional practice.²²

According to the 2010 curriculum of the FM-UNAM¹³ medical degree the development of the competency “Critical thinking, clinical judgment, decision making and information management” should be gradual, throughout the career, until reaching the final medical profile. In the first and second year of training, students should develop the first intermediate profile of this competency, consisting of identifying, selecting, retrieving and interpreting information from various sources. In accordance with the above, we consider that the incorporation of a competency-based teaching strategy for the study of the psychological aspects of family life will contribute to the development of these skills that are fundamental to the study and practice of medicine.

As several authors point out, the medical degree should teach the topic of the psychological aspects of family life from the preclinical stage^{10,11,19-21} since its incorporation into the first years of training allows the student to integrate a biopsychosocial framework into the patient's analysis.¹⁻⁴ This phenomenon has been contemplated in the 2010 curriculum,¹³ in Medicine, which has included the family topic within the subject “Introduction to Mental Health”. Through this approach and the development of competency's that allows him to obtain adequate information management, and a critical and reflective analysis, the student will be able to implement therapeutic measures aimed at reducing risk factors and promoting the protective factors present in the family group.³

The teachers of the subject “Introduction to Mental Health” who

participated in the study noted that the teaching strategy favored the active participation of students for the development of the competency “Critical thinking, clinical judgment, decision-making and information management” during the study of the topic “The Role of the Family in the Development of the Individual”. This finding coincides with what was found by Lopez et al.¹⁵ by questioning a group of professionals who experts in pedagogy about competency learning skills in higher education. Experts mentioned that the competency approach is positive for university education, as it reorients the purpose of university education and assigns a central role to students within their training.¹⁵

Students who participated considered the teaching strategy is useful in achieving the knowledge, skills, and attitudes that the topic requires for application in medical practice. The results coincide with the research of Post et al.¹² in which medical students considered that addressing issues related to the psychological aspects of human beings is important for their training and should be done from the preclinical years.

The favorable opinion of teachers and students to incorporate this teaching methodology from the undergraduate years, since it facilitates dynamic and meaningful learning, coincides with the conclusions of López et al.,¹⁵ that the adoption of the approach by competency requires new teaching didactic methods to professors, so to make possible the development of professional competencies based on real situations and problems.

This work involved expert professors in the humanistic aspects of

medical practice and competency learning, who worked collegially on the development of the text and teaching strategy. The participating teachers and students collaborated enthusiastically in the implementation of the strategy and in the evaluation of its effectiveness.

One of the main challenges was the time and resources invested in training teachers for the proper implementation of the teaching strategy. The latter is one of the difficulties observed when adopting a competency-based approach, since transforming curriculums in terms of results requires time, resources and adequate training.¹⁵

Conclusions

The development and evaluation of the competence “Critical thinking, clinical judgment, decision-making and information management” during the study of the topic “The Role of the Family in the Development of the Individual”, had a favorable response on the part of the participants, this will allow the student to understand the problem and propose solutions around the conflicts of patients and their family.

It would be important to have a specific course on this subject; however, it is not possible due to the burden of knowledge and skills that have to be developed during the students' career. The latter is one of the difficulties observed when adopting a competency-based approach, since transforming curriculums in terms of results requires time, resources and adequate training.¹⁵

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