Medical Theatre as an Innovative Pedagogical Strategy in Medical Simulation

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Abstract
Medical education has overshadowed the importance for interpersonal abilities in modern medicine practice. In this work, we report an innovative strategy to teach, practice, and evaluate communication and empathy abilities, based on medical theater. This approach was based on interdisciplinary effort between Medicine, Performing Arts, and Bioethics Faculty. Development and first pilot experience results are here reported. A multidisciplinary team was established with the objective to structure the methodology where simulated clinical consultations were performed: two interviews took place, each with one medical student as physician and one performing arts student as simulated patient. Thirty students and 7 Faculty members participated as spectators. Students received immediate feedback and they qualitatively evaluated the global experience. We conclude that medical theater methodology is a developmental strategy that could promote integral acquisition of communication competences.

Keywords Medical education · Medical theater · Innovative strategies

Background
Professional education must incorporate training for human experience and efficient communication [1]. Interaction between doctors and patients is surrounded by hard-manageable emotions. Roig [2] describes fear from both sides of patient-clinician relationship: “The patient’s is an earthly, primitive fear, I would almost say animal. A fear that moves in a confusing, rough, dark, narrow terrain. It does not need metaphors. It is a fear that is scary to feel. The fear of the doctor, it seems to me, is more imprecise. It is the fear of being surprised. Having to admit what is not controllable. Having to admit the imprecision, the unpredictability, the improvisation. Nothing is safe. The doctor is therefore afraid of being surprised” [2]. Humanistic approach of doctor-patient relationship has been relegated to the background, giving priority to the trending over-technical college education [3]. Consequently, structuring an innovative, comprehensive, and integrative approach around the development of professional competencies is crucial [4]. An instructive method should promote harmonious interaction between knowledge, practical skills, and humanistic attitudes.

Medical theater (MT) is an educational strategy underused in medical sciences. There are some reports of its use since 2001 in Asian and European countries and shortly after in Brazil, in 2003 [5]. From there, consistently, MT has shown benefits in both competence acquisition and student satisfaction as a result of its attractiveness related with its opposition to traditional medical education [4, 5].
Besides, it promotes integration of theoretical knowledge and practical abilities, and favors acquisition of empathy, teamwork, and communication skills. MT also provides a structured methodology for critical thinking [5, 6]. Communication in doctor-patient relationship, and even among colleges, must be considered as a nuclear skill in medical exercise, and hence it should be taken as one of the priorities in medical education. Professional practice cannot be based only on technical aspects—which are important—but should be comprehended from an integral perspective, satisfying anthropological aspirations. Here, we describe development and pilot experience with an innovative strategy involving interdependent relationships between arts, education, bioethics, and health sciences, based on medical theater.

### Activity

A multidisciplinary research team was established, including researchers and educators from Arts, Bioethics, and Health Sciences Schools. In a first stage, bibliographic research was conducted aiming to determine benefits of MT (Table 1). The team worked collegiately to define learning goals, which were structured in concordance with competencies of graduate profile and expected results. Special emphasis was placed on key learning results in bioethics and communication skills. Trigger questions used to define learning objectives and develop clinical cases are shown in Table 2. Based on results, medical faculty developed primary care cases with clinical aspects, such as symptoms and quality of life, but also social, emotional, and cultural traits.

Thus, performing arts students (Bachelor in Acting and Theatre Studies, Character Development course) were provided with a previously developed clinical scenario and they were required to build a character [7] that would be performed in a simulated clinical interview, where they would improvise dialogs and construct a realistic scenario.

### Table 1 Medical theatre benefits applied to medical education [8–12]

| Competency approach | Theoretical and practical development: |
|---------------------|----------------------------------------|
| 1.                  | Approach to clinical practice in a safe environment (n = 11) |
| 2.                  | It favors the acquisition of theoretical-practical knowledge (n = 13) |
| 3.                  | Critical analysis (n = 13) |
| 4.                  | Constructive dialogue (n = 13) |
| 5.                  | Development of creative solutions (n = 13) |

### Table 2 Medical theatre planning format

| Steps | Induction question | Pedagogical process | Learning outcomes |
|-------|--------------------|---------------------|------------------|
| 1     | What are we teaching? |                     |                  |
| 2     | How are we going to do it? |              |                  |
| 3     | How are going to evaluate it? |           |                  |
| 4     | What clinical setting meets the needs? |       |                  |
| 5     | Character development |                     |                  |
| 6     | Awareness of medical students |             |                  |

Pedagogical process: individualized medical theater (attitudinal), medical theater (attitudinal) complemented with medical simulation (practical)

The assessment must be consistent with the learning outcomes

For clinical history and character building, performing arts students worked with the following elements, previously developed:

1. Patient identification: name, age, gender, social aspects (career, family, religion).
2. Diagnostic description:
   - (a) Diagnostic: SLE was the chosen diagnostic on pilot.
   - (b) Pathology description:
     - (i) Symptoms and signs, as specific as possible, generic clinical pictures were added.
     - (ii) Prognosis
     - (iii) Risk Factors
3. Repercussions on quality of life.
4. Medical relation with character personality or temperament.
5. Social, economic, and cultural aspects.

This description was sent one month prior to the exercise to performing arts students, in order to give them enough time to build their character.

In a second phase, a MT pilot was carried out according to the following methodology: Medical students from sixth semester were randomly selected, informed about the aiming of the exercise, and asked for their consent. Performing arts students were instructed to act as real patients. Schedule and timing of pilot session are described in Table 3. For the pilot experience, two medical students and two performing arts students were randomly selected; they were asked for their agreement to participate. Medical students were instructed to conduct as they were in a real scenario. During the exercise, medical students performed a clinical interview since patient welcome to end of the simulated consultation. It is
important to emphasize that the exercise had no impact on students’ grades, to relax the atmosphere, and facilitate an enjoyable environment. Faculty members from medicine, arts, and bioethics were included as spectators, and they provided feedback to students in comprehensive debriefing. After the MT, a qualitative evaluation was requested in a survey from (1) each medical student playing the doctor role, (2) each arts student playing the patient role, and (3) spectators/classmates. Students were also asked about their awareness regarding their formative needs in communication and social skills areas.

Results

Bibliographic research showed that MT has direct benefits on acquisition of theoretical and practical abilities such as critical analysis, constructive dialogue, and development of creative solutions which impacted better results in theoretical and practical evaluations. MT also favored the attitudinal development by promoting active listening, empathy, cultural recognition, and emotional intelligence (decreased fear and anxiety).

One month prior to the pilot exercise, material was sent to performing arts students, who worked with their teacher in character development. Due to the health emergency by COVID-19, the pilot was carried out virtually. Thirty medical students participated in the pilot session, 2 arts students acted as simulated patients, and 7 Faculty members attended the activity and provided feedback.

After the pilot test, 16/30 (53%) students answered the survey.

Participants identified the following benefits of the exercise (Table 1).

Table 3 Pilot session schedule

| Time            | Concept                                |
|-----------------|----------------------------------------|
| 5 min (17:30–17:35 h) | Activity introduction                  |
| 15 ± 5 min (17:35–17:50 h) | First medical theater activity          |
|                 | ‒ Expectators                          |
|                 | ‒ Medical theater involved alumni      |
| 15 ± 5 min (17:55–18:10 h) | Second medical theater activity        |
|                 | ‒ Expectators                          |
|                 | ‒ Medical theater involved alumni      |
| 20–30 min (18:10–18:30 h) | Feedback                               |
|                 | ‒ From faculty members                 |
| 20 min (18:30–18:50 h) | Feedback                               |
|                 | ‒ From classmates (medical, arts, and bioethics students) |
| 5 min (18:50–18:55 h) | Activity closure                       |

Free opinions were collected in the qualitative evaluation. Some comments to the activity were the following: “Excellent activity”, “the activity was interesting, clearly this was a test of what is planned to be developed and details remain to be polished, but in my opinion the project has a lot of potential.” “I loved the activity, especially the feedback from the professionals”, “I would like to have more activities like this!”, “I found the activity original and very enriching, I think that being able to have the opportunity to observe the doctor-patient interaction helped me a lot to be able to see the things that should and should not be done when making a consultation”, “It was an excellent practice, it helps a lot to know about the subject”. After the activity, 93.7% recognized their needs for additional formation for the acquisition of communication abilities and requested more formative actions.

Discussion

We show that medical theater is a well-received, innovative, and multidisciplinary strategy to develop social and communication skills in a controlled environment. As medicine professors, we recognize that clinical empathy is crucial since it represents the fundamental nucleus for doctor-patient relationship. Dow et al. [13] have demonstrated that focused formation in this area can result in improved soft skill. Collaborative efforts between departments, where feasible, must be encouraged. In this pilot, performing arts students’ participation enhanced a realistic scenario and promoted a humanistic experience for medical students. This interdisciplinary work will continue and enforce for the following academic periods. This methodology can be included in different areas of the curriculum (psychiatry, doctor-patient relationship, medical semiology, clinical history, interdisciplinary and bioethical analysis of medicine, etc.). Thus, a greater synergy between science and arts shall be promoted. Performing and drama arts will provide actual response to reduced physicians’ ability to actively get involved with their patients through human accompaniment [14]. This innovative methodology allows students to complete their practical and attitudinal competences with communication and emotional aspects, endorsing their natural aspiration to good, truth, and beauty, all of what will redound in benefits for their future practice and their future patients. One potential limitation of this activity is low participation of students in the final survey (53%) which potentially encloses a selection bias. Therefore, more studies will be necessary to properly evaluate long-term impact of the inclusion of this methodology.

We conclude that MT, involving active participation of performing arts and medical students, is an innovative methodology, which, by their dynamic and interdisciplinary
nature, will respond to unmet needs in the medical formation regarding the comprehensive development of communication skills, professionalism, empathy, and, globally, humanistic competencies, and simultaneously enable performing arts students to practice and develop acting skills in a controlled environment.

**Abbreviations**  
MT: Medical Theater

**Supplementary Information**  
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**Declarations**

**Ethical Approval**  
NA.

**Informed Consent**  
NA.

**Conflict of Interest**  
The authors declare no competing interests.

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