Author’s response to reviews

Title: FORUM THEATER STAGING OF DIFFICULT ENCOUNTERS WITH PATIENTS TO INCREASE EMPATHY IN STUDENTS: DETERMINANTS OF EFFICACY. EVALUATION AT ANGERS UNIVERSITY MEDICAL SCHOOL

Authors:
Marion Sevrain-Goideau (mariongoideau@gmail.com)
Benedicte Gohier (begohier@chu-angers.fr)
William Bellanger (william.bellanger@univ-angers.fr)
Cedric Annweiler (cedric.annweiler@univ-angers.fr)
Mario Campone (mario.campone@univ-angers.fr)
Regis Coutant (recoutant@chu-angers.fr)

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Author’s response to reviews:

RESPONSE TO THE EDITOR

Dear Editor,

We thank you as well as the reviewers for the remarks.

As requested, we have provided a point by point response to the reviewers

Regarding the choice of 4th year medical students and the feasibility of the Intervention, we have now added in the revised version of the manuscript why we chose fourth-year medical students. Methods section, Page 6, line 3:

Fourth-year medical students in France are 22 years of age on average and have a mix of medicine courses and of real-life encounters with patients under supervision during this year. Medical schools offer a 6 years curriculum (corresponding to both undergraduate and medical studies in other countries) before entering residency. The first two years of medical school consists of basic science courses, and from the third to the sixth year of clinical rotations in teaching hospital (every morning from 9 am to 1 pm) and clinical medicine courses in the medical school (every afternoon from 2 pm to 6 pm). Then, sixth year medical students undergo a national written exam for entering residency, which last 4 to 6 years, depending on the specialty. We therefore estimated that fourth-year medical students had the necessary background and the appropriate environment for their ethical reflection to be contextualized.

Regarding the feasibility of the Intervention, we have now added, in the Discussion section, page 11, line 7
RESPONSE TO REVIEWER 1

1) In the introduction, I think the authors might acknowledge the very long tradition of research in this area, and the number of interventions that are very close to the one they used (really, only the name is different). The brevity of this section is a good thing, but I think a little more to situate this study in the large literature would be helpful to readers (they do this in the discussion, but it needs a little here too). To me, the contribution of this work is that the literature has been applied very specifically to advanced medical training, and I would emphasise that.

We agree with this comment. We had kept a short introduction in the first version of the manuscript in agreement with the editorial recommendation of the journal. We have now expanded the Introduction in the revised version as follows:

Background section, page 3, line 2:
There is a long tradition of research regarding physician’s empathy, including definitions and measurements. Several thousands of papers dealing with empathy in physicians and medical students have been published [1]. Empathy is considered as a highly desirable competence, even rated as one of the most important by medical students, physicians, and patients [1]. In their Learning Objectives for Medical School Education….

Background section, page 4, line 1:
Despite the undeniable importance of these skills to successful medical practice, no widespread or well-studied curricula exist to teach clinical empathy. In two recent systematic reviews of interventions to cultivate physician empathy, Kelm et al [1]. selected 64 studies that quantitatively assessed changes in empathy, and Patel et al. [11] selected 52 studies that were controlled. More than half have been directed toward residents or physicians, that is professionals advanced in their medical training and already engaged in a specialty, which may be considered as relatively late in the curriculum [1, 11]. The sample size was 11 to 439 subjects…

Background section, page 4, line 14:
Among the tools designed to build an understanding of how a person experiences others, theater and applied drama have been used to bridge the gap between theoretical knowledge and practice. Theatrical performances, well-known dramas as “Wit” [13], or other staged performances to present the patient experience of illness [14, 15], have been used for audience members (medical students) to discuss their reactions and feelings toward the plot, allowing an ethical reflexion to occur [13, 14], and/or allowing to build communication skills [15]. Other forms of theater required the active engagement of the participants. It allows them to act out experiences and situations in order to better understand illness from the patient point of view, emotions of others, as well as the complex interactions that occur during the act of delivering and receiving bad news. Improvisational theater, or role-play with standardized or simulated patients, have been used in medical students or residents, to teach communication skills [16, 17]. Forum theater (FT), introduced in the 1970s by Augusto Boal, is a form of applied drama where an
issue or dilemma is used for exploration by a small group of participants (as actors) in front of a larger group of peers, as a way of exploring solutions to real-life dilemmas in a safe environment [18, 19]. The audience members in FT (whom Boal calls “spect-actors”) are asked to enter the performance and, by taking over the role of one of the “actors,” to explore alternative interactions. Forum theater is an experiential theatrical technique that directly involves students as spect-actors, enabling them to explore and practice multiple ways of communicating without resorting to any kind of prescriptive answer for a given situation. These interactions may lead to a more positive outcome than the one presented in the original scenario. The purpose is to stimulate discussion and interactive reflection on the dramatized scenarios [19]. In healthcare education, FT has been used with students from nursing, midwifery and medicine to investigate issues that students may find challenging, such as empowerment, valuing diversity and exploring values and beliefs [19, 20]. To our knowledge, FT has not been evaluated as a tool to increase communication skills or empathy scores among medical students up to now.

2) Regarding the choice of 4th year medical students and the feasibility of the Intervention, we have now added in the revised version of the manuscript why we chose fourth-year medical students. Methods section, Page 6, line 3:

Fourth-year medical students in France are 22 years of age on average and have a mix of medicine courses and of real-life encounters with patients under supervision during this year. Medical schools offer a 6 years curriculum (corresponding to both undergraduate and medical studies in other countries) before entering residency. The first two years of medical school consists of basic science courses, and from the third to the sixth year of clinical rotations in teaching hospital (every morning from 9 am to 1 pm) and clinical medicine courses in the medical school (every afternoon from 2 pm to 6 pm). Then, sixth year medical students undergo a national written exam for entering residency, which last 4 to 6 years, depending on the specialty. We therefore estimated that fourth-year medical students had the necessary background and the appropriate environment for their ethical reflection to be contextualized.

3. The method looks careful and appropriate - this is an intensive training, and I wonder how easy it would be to apply it to other programs.

We agree with the comment.

We have now added, in the Discussion section, page 11, line 7

However, FT implementation was time and human resources consuming and should be carefully weighed against other methods to increase empathy in medical students.

4. The results are clearly presented. They are interesting, but not surprising given the rest of the literature in this area.

We agree with the comment.

5. The discussion is clear and sensible. One suggestion: when you compare results on the empathy scale across countries, I wouldn't discount the impact of response bias. You do mention social desirability, which is part of this, but cultural variables around emotional expression, modesty, and so forth also have a big impact. The best way to explore this, of course, is to do more studies in different
We agree with the comment. As suggested by the reviewer, we added a sentence about cultural variables around emotional expression, as follows:

Discussion section, page 12, line 8
Response bias could also contribute to these differences. On the one hand, social desirability bias describes the risk for a socially desirable “expected response” that students are required to conform to in order to obtain reward (especially in students from medical schools including personality assessment in the evaluation process) [32]. On the other hand, cultural variables around emotional expression, such as the perceived value of modesty, could also explain the differences in empathy scores between countries and cultures. It would therefore be useful to explore the efficacy of FT to increase empathy in different cultures.

6. Limitations are good, but I would also mention that fact that the empathy measure came immediately after the FT sessions. It would be useful in future research to explore the long-term impact of the intervention. You do mention this at the end, but a bit more detail would be helpful.

We thank the reviewer for this comment. We added in the Discussion section (subsection limitations) in the revised version of the manuscript, page 13, line 21:

Finally, empathy was measured immediately after the FT sessions, which may have influenced the scores. It would be useful in future research to explore the long-term impact of the intervention as well as the impact of FT in the empathical behavior observed in real life, that is in clinical practice.

7. I'm not sure you need the figure or Table 1 (both are clear in the text) - alternatively, you could include them in supplementary material.

As suggested by the reviewer, the Figure and Table 1 have been removed from the main manuscript and proposed as supplementary material. Table 2 has been renumbered as Table 1 in the revised version of the manuscript.

New references have been added in the revised version, and all the references have been appropriately renumbered.

RESPONSE TO REVIEWER 2

Tony Young (Reviewer 2): This is a timely and well-written report of an evaluation of an intervention involving a particular form of applied drama to medical education. It follows a clear and conventional structure in general, although see below for a specific area for improvement related to the background to FT. It is generally well-written. Its procedures seem robust and appropriately applied. Its conclusions were evidence-related and interesting. Its findings are likely to be of interest to a broad readership involved with psycho-social medical education.
Specific comments and recommendations

[Throughout (page(s), line(s))]

(2,51) Typo - 'Being an actor…'

This has been corrected in the revised version of the manuscript.

4, 17 - 24. A reference and further detail is needed for the assertion about the use of applied drama. By whom, when, in what quasi-clinical settings and with which groups?

We agree with the comment.

The paragraph about theater and applied drama has been expanded in the revised version of the manuscript as follows

Background section, page 4, line 1:
Despite the undeniable importance of these skills to successful medical practice, no widespread or well-studied curricula exist to teach clinical empathy. In two recent systematic reviews of interventions to cultivate physician empathy, Kelm et al [1], selected 64 studies that quantitatively assessed changes in empathy, and Patel et al. [11] selected 52 studies that were controlled. More than half have been directed toward residents or physicians, that is professionals advanced in their medical training and already engaged in a specialty, which may be considered as relatively late in the curriculum [1, 11]. The sample size was 11 to 439 subjects…

Background section, page 4, line 14:
Among the tools designed to build an understanding of how a person experiences others, theater and applied drama have been used to bridge the gap between theoretical knowledge and practice. Theatrical performances, well-known dramas as “Wit” [13], or other staged performances to present the patient experience of illness [14, 15], have been used for audience members (medical students) to discuss their reactions and feelings toward the plot, allowing an ethical reflexion to occur [13, 14], and/or allowing to build communication skills [15]. Other forms of theater required the active engagement of the participants. It allows them to act out experiences and situations in order to better understand illness from the patient point of view, emotions of others, as well as the complex interactions that occur during the act of delivering and receiving bad news. Improvisational theater, or role-play with standardized or simulated patients, have been used in medical students or residents, to teach communication skills [16, 17]. Forum theater (FT), introduced in the 1970s by Augusto Boal, is a form of applied drama where an issue or dilemma is used for exploration by a small group of participants (as actors) in front of a larger group of peers, as a way of exploring solutions to real-life dilemmas in a safe environment [18, 19]. The audience members in FT (whom Boal calls “spect-actors”) are asked to enter the performance and, by taking over the role of one of the “actors,” to explore alternative interactions. Forum theater is an experiential theatrical technique that directly involves students as spect-actors, enabling them to explore and practice multiple ways of communicating without resorting to any kind of prescriptive answer for a given situation. These interactions may lead to a more positive outcome than the one presented in the original scenario. The purpose is to stimulate discussion and interactive reflection on the dramatized scenarios [19]. In healthcare education, FT has been used with students from nursing, midwifery and medicine to investigate issues that students may find challenging, such as
empowerment, valuing diversity and exploring values and beliefs [19, 20]. To our knowledge, FT has not been evaluated as a tool to increase communication skills or empathy scores among medical students up to now.

4, 22 - 23. Evidence and further detail is needed for the assertion that applied drama allows participants to better understand themselves.

We agree with the comment. The sentence is elusive and this may not be the main aim of applied drama.

We changed the sentence in the revised version of the manuscript; Background section, page 4, line 20, as follows:
It allows them to act out experiences and situations in order to better understand illness from the patient point of view, emotions of others, as well as the complex interactions that occur during the act of delivering and receiving bad news.

4, 24 - 41. More detail is needed here on Forum Theatre. See comments below re pages 9 - 10, but essentially why was this particular form of applied theatre chosen and what are its specific characteristics? The Middlewick et al (2012) paper referred to is a useful starting point, but the detail here needs to be fleshed out more to give readers a clearer idea. You state later that FT has not been used in medical education before (10, 10 - 14) so need to say more here about you chose it.

We agree with this comment. The paragraph about FT in the Discussion Section (page 9) has been now placed in the Introduction section. The specific interest of FT has also been expanded in the Background section, page 4, line 14:

Among the tools designed to build an understanding of how a person experiences others, theater and applied drama have been used to bridge the gap between theoretical knowledge and practice. Theatrical performances, well-known dramas as “Wit” [13], or other staged performances to present the patient experience of illness [14, 15], have been used for audience members (medical students) to discuss their reactions and feelings toward the plot, allowing an ethical reflexion to occur [13, 14], and/or allowing to build communication skills [15]. Other forms of theater required the active engagement of the participants. It allows them to act out experiences and situations in order to better understand illness from the patient point of view, emotions of others, as well as the complex interactions that occur during the act of delivering and receiving bad news. Improvisational theater, or role-play with standardized or simulated patients, have been used in medical students or residents, to teach communication skills [16, 17]. Forum theater (FT), introduced in the 1970s by Augusto Boal, is a form of applied drama where an issue or dilemma is used for exploration by a small group of participants (as actors) in front of a larger group of peers, as a way of exploring solutions to real-life dilemmas in a safe environment [18, 19]. The audience members in FT (whom Boal calls “spect-actors”) are asked to enter the performance and, by taking over the role of one of the “actors,” to explore alternative interactions. Forum theater is an experiential theatrical technique that directly involves students as spect-actors, enabling them to explore and practice multiple ways of communicating without resorting to any kind of prescriptive answer for a given situation. These interactions may lead to a more positive outcome than the one presented in the original scenario. The purpose is to stimulate discussion and interactive reflection on the dramatized scenarios [19]. In healthcare education, FT has been used with students from nursing,
midwifery and medicine to investigate issues that students may find challenging, such as empowerment, valuing diversity and exploring values and beliefs [19, 20]. To our knowledge, FT has not been evaluated as a tool to increase communication skills or empathy scores among medical students up to now.

5, 7 - 19. Why were fourth-year medical students in particular chosen? With what assumptions? More detail here would be helpful.

Regarding the choice of 4th year medical students and the feasibility of the Intervention, we have now added in the revised version of the manuscript why we chose fourth-year medical students. Methods section, Page 6, line 3:

Fourth-year medical students in France are 22 years of age on average and have a mix of medicine courses and of real-life encounters with patients under supervision during this year. Medical schools offer a 6 years curriculum (corresponding to both undergraduate and medical studies in other countries) before entering residency. The first two years of medical school consists of basic science courses, and from the third to the sixth year of clinical rotations in teaching hospital (every morning from 9 am to 1 pm) and clinical medicine courses in the medical school (every afternoon from 2 pm to 6 pm). Then, sixth year medical students undergo a national written exam for entering residency, which last 4 to 6 years, depending on the specialty. We therefore estimated that fourth-year medical students had the necessary background and the appropriate environment for their ethical reflection to be contextualized.

5, 36. In what ways was the design compatible with the fourth-year curriculum?

We agree that this assertion is elusive.

Rather than justifying something which is of little meaning, as it only reflects an organizational point of view, we removed the sentence from the revised version of the manuscript

5, 48 - 58. What evidence is there that the homework was done? Would doing it not doing this have a material effect on outcomes?

There was no evidence that the homework was done, as we did not assess this point. We were therefore unable to evaluate the impact of achieving or not the homework.

This has been added in the Methods Section, page 7, line 2, as follows:

Two hours of personal homework were expected from each student, but not assessed before FT sessions.

6, 1 - 7. More detail is needed on the FT sessions, ideally on each scenario. Why these scenarios in particular? What did each consist of? A summary of justifications and procedures would be useful here.

We have now added in the revised version of the manuscript, in The Methods section, page 7, line 7:

The precise content of the scenarios is detailed in additional file 1. The first scenario was played out in
front of a group of 18 students by actors in amateur theater, including healthcare professionals (nurses, physicians), with one playing the patient, one a family member or caregiver, and one the attending physician whose obvious mistakes in communication bordered on caricature. Then, a medical student entered to replace the actor-physician and proposed more appropriate communication. Next, each of the 2 following scenes consisted of a slight evolution of the initial scene (see additional file 1). The patient’s attitudes and reactions, as well as those of the family member or caregiver, were different in each of the scenes. As a new medical student entered to play the physician in each scene, this led the student to adapt his/her communication skills to the situation. Therefore, for each scenario, three medical students were actors, and for each 4-hour session, three scenarios were acted out (therefore 9 students were actors). Moreover, each group of 18 students followed the two different sessions, allowing each student to be an actor at least once and an observer for the other scenes. Each scenario was played out for approximately 30 minutes, and this was followed by a debriefing for the next 25 minutes with the student actors, student observers, actors, and two or three teachers competent in simulation and debriefing. The original scenarios had been developed by a group of eight teachers and eight fourth- to sixth-year medical students to stage difficult encounters with patients.

We also added numerous precisions about the choice of the scenarii and the emotional issues in the additional file 1.

9, 19. Mention the scale again for the 6-point increase?

This has been mentioned in the revised version of the manuscript, Discussion section, page 10, line 12, as follows:

We have shown in this study that the global empathy score of medical students was increased by an average of 6 points (from 102 to 108) with the participation to two forum theater sessions, and that the percentage of low-scorers was decreased by half after the two sessions.

9 - 10. The whole subsection on Forum Theatre, certainly up to 'To our knowledge…' (p.10) seems to more properly belong in the 'Background' section. This detail about FT is interesting and useful, but perhaps is in the wrong place.

This subsection has been removed and placed in the Introduction section to better explain this form of applied drama.

12, 53 - typo - extra space between 'and' and 'gender'.

This has been corrected in the revised version of the manuscript.

14, - typo - '…RC conceptualised' - past simple is more appropriate here.

This has been corrected in the revised version of the manuscript.
New references have been added in the revised version, and all the references have been appropriately renumbered.