Faculty development on professionalism and medical ethics: The design, development and implementation of Objective Structured Teaching Exercises (OSTEs)

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Abstract

Background: As students are expected to develop competency in professionalism and medical ethics, faculty are also expected to facilitate medical students' learning and understanding of these areas. One of the main challenges to success in this domain has been uncertainty of whether or not faculty know the content and the methods to teach and assess these competencies.
Aim: We used the Objective Structured Teaching Exercise (OSTE) format as a faculty development tool to train and evaluate faculty on how to teach professionalism and medical ethics to students in clinical settings.
Methods: The process for the design, development and implementation of OSTEs consisted of five phases: (1) performing a literature review and student needs assessment, (2) developing the OSTE cases and performance checklists, (3) recruiting and training of standardized students, (4) conducting a mock training session and (5) organizing faculty development workshops using OSTEs.
Results: Twenty clinical faculty members participated in one of three half-day OSTE workshops offered. Faculty confidence and attitudes about teaching professionalism increased significantly ($p < 0.05$) from before participating in the workshop to afterwards.
Conclusions: Faculty feedback were positive stating that the OSTE scenarios were reflective of issues they generally encounter while teaching medical students, the information and skills they learned from the workshop are important to them as clinical educators, and that the information and skills will likely have an impact on the way they teach professionalism and ethics in the future.

Introduction

Formal education in professionalism and medical ethics has become a standard component of medical education in the United States (Fox et al. 1995). During the preclinical years of medical school, students are generally taught the theories, principles and concepts of professionalism and medical ethics (Fox et al. 1995). A common criticism about teaching professionalism and medical ethics in the preclinical years, however, is that this field of study often deals with issues that medical students neither have experienced nor, as a result, fully appreciate (Redmon 1989). During the clinical years, common approaches in teaching professionalism and medical ethics are to have medical students observe physician role models on the wards (Hafferty & Franks 1994; Roberts & Fincher 1997) or engage in informal "hallway" discussions after a difficult patient encounter about what could have been done differently (Smith et al. 2004). These approaches reflect educational theorists' decades of emphasis on the importance of situating instruction in meaningful contexts. This type of instruction provides medical students with opportunities for

Practice points

- A major challenge in facilitating medical student's learning and understanding of professionalism and medical ethics is whether or not faculty know what to teach and how to teach or assess these competencies.
- Objective Structured Teaching Exercises (OSTEs) are an effective faculty development training tool because they offer instructors the opportunity to practice their teaching skills under realistic scenarios.

apprenticeship learning. Nevertheless, this approach to teaching professionalism and medical ethics has manifested insufficient salutary effects due to its minimal individualization, inadequate time allowed for reflection and the unpredictable interaction between the clinical faculty and students (Strong et al. 1992; Bulger & Reiser 1993; Burack et al. 1999). A contributing reason for this failure is that faculty physicians have inadequate training in how to teach professionalism and medical ethics in the clinical setting (Lehmann et al. 2004).

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One promising strategy for addressing this problem is effective faculty development in teaching professionalism and medical ethics – training in which teachers can learn to observe, comment and reflect on the reasoning processes of learners in response to professional and/or medical ethical dilemmas in a constructive and timely way (Steinert et al. 2005).

OSTEs on professionalism and medical ethics

We chose to use the Objective Structured Teaching Exercise (OSTE) format to train and evaluate faculty on how to teach professionalism and medical ethics to students in clinical settings. The OSTE format has been found to be an effective faculty development training tool for teachers of medical students in that it offers them the opportunity to practice their teaching skills under realistic scenarios (Stone et al. 2003). More importantly, through direct observation, faculty receive immediate feedback about their teaching which may support enhancement of these skills and abilities (Trowbridge et al. 2011). OSTEs are especially appealing because they avoid the barriers of limited time and happenstance that occur in real clinical settings. Faculty have the opportunity to point out and to address the professional and ethical aspects of clinical practice to learners in a controlled and safe environment.

Purpose and objectives

As our students are expected to develop competency in professionalism and medical ethics, our faculty are also expected to facilitate medical student's learning and understanding of such areas. Several of the main challenges of these expectations have been whether or not faculty know what to teach, how to teach and how to assess these competencies. This challenge is heightened in clinical settings where faculty are expected to achieve multiple learning objectives while at the same time manage the care of their patients. The overall purpose of this project was to develop an effective way to provide our clinical faculty with the opportunity to review, practice and receive feedback on their teaching of professionalism and medical ethics. Specifically, we aimed to: (1) develop clinical faculty's ability to identify professional and medical ethical issues during students' clinical learning experiences, encourage students' professional behavior and foster students' medical ethical reasoning skills and (2) enhance clinical faculty's observation, teaching and feedback skills in regards to students' professional and medical ethical decisions and actions.

Methods

The process for the design, development and implementation of OSTEs consisted of five phases as described below. Institutional review board (IRB) approval was obtained.

Phase 1: Performing a literature review and student needs assessment

In order to develop significant and meaningful teaching scenarios, a literature review was conducted to identify the most commonly encountered professional and ethical dilemmas in medical students' clinical training. Results from the literature review were used to develop a needs assessment survey that was administered to our rising fourth year medical students. We targeted rising fourth year medical students because they had recently completed their clinical clerkships and therefore were most likely to have experienced situations related to professionalism and medical ethics especially pertinent to novice clinical trainees. The purpose of the needs assessment survey was to get a sense of whether or not our students felt they received adequate instruction or guidance related to identifying and/or dealing with a professionalism/ethical situation. Additionally, we wanted to identify the kinds of professional/ethical problems they see most often during their clinical learning experiences. The students were sent an email invitation to complete the online anonymous survey. A total of 42 students responded (36% response rate). While most students (76% of 42) reported having encountered unprofessional behaviors by attendings, residents or colleagues; only 15% reported wishing they had more guidance from faculty on how to deal with these behaviors. The reason for this discrepancy is unknown as it was not the within the scope of the survey, although it did prompt interest for further investigation by the authors as a future study. Unprofessional behaviors noted by the students included harassment, public humiliation and lack of empathy towards students as well as patients.

Phase 2: Developing the OSTE cases and performance checklists

A team consisting of senior clinical faculty with teaching experience (SL and WW), non-clinical medical educators (WHL, EM and PCW), standardized patient trainers (PB and KB) and a medical ethicist who served as the expert consultant was formed. The team went through an iterative and collaborative process in the design and development of the OSTE cases with the following aims in mind: (1) identify the objectives for each teaching scenario, (2) write the teaching scenarios including the instructions for the faculty, standardized students (SSs) and standardized patients (SPs) and (3) construct performance checklists as assessment tools.

Prior to drafting the cases, a template for the OSTE cases was first determined. In addition to learning objectives, the OSTE case template required the following components: a case overview, a door note specifying the same, any case props required, a description of the behavior/appearance of the SS/SP, line-by-line scripts for the SS/SP, the name of the patient (if applicable), the current and past medical history of the patient and an evaluation checklist. Subsequently, topics for the cases were identified based on the literature review results and responses from the student needs assessment survey.

Drafts of the cases were then initially created by the team's medical ethicist and sent for the first round of reviews by the other team members and external grant funders. Questions that guided this review were: (1) whether the setting between student and faculty physician was plausible, (2) whether the case itself was plausible and (3) whether the array of cases had reflected the literature as well as the student concerns raised in the survey. Revisions were made to the cases based on

Table 1. Overview of OSTE cases.
Case: In the video the patient is a 55-year-old heavy smoker with COPD and HTN who has waited almost an hour past his scheduled appointment time. He is very angry about waiting and complains about poor treatment in the clinic. He says he can't give up cigarettes, because they calm his nerves. In the video the student's appearance is somewhat unprofessional (e.g. slightly unshaven, rumpled shirt, dress very short, too much décolletage). She uses the patient's first name and mentions her own heavy schedule, instead of responding to the patient's anger about waiting. She scolds the patient about ''not taking care of himself'' and suggests he is responsible for his own illness.   In the feedback session, the student is defensive about her performance and comments negatively about the patient. The student says, ''I don't see why we keep treating him. It's no use. He won't take his meds. He smokes like a fiend. What we need to do is teach him a lesson, tell him he either stops smoking or finds himself another clinic to abuse.''
Case: The patient is a 48-year-old Hispanic woman with type II diabetes whose current complaints are ''being thirsty all the time'' and ''going to the bathroom every hour, even at night.'' Her prescribed medications include metformin and insulin, but she has not been taking them. Instead, she uses a mixture of herbal infusions called ''te de nopales'' (cactus drink) and ''te de elote'' (cornsilk tea), which she believes will relieve her diabetes and strengthen her kidneys. Moreover, she is afraid of insulin because a friend told her that it causes blindness, She is convinced of this because two of her relatives who took insulin later went blind.   In presenting the case, the student emphasizes the patient's ''noncompliance'' and ''ignorance'' about diabetes. He gave her an informational booklet (in English) and plans to send her to an evening diabetes class at the clinic. He told her to stop drinking the herbal teas because ''they may be dangerous'' and warned her against accepting ''old wives' tales.'' He also told her that the booklet explains the relationship between diabetes and ''retinopathy.''
Case: The patient is a 50-year-old mail carrier who suffers from recurrent left knee pain and dysfunction caused by degenerative joint disease (DJD). On this occasion he came to the clinic with a swollen, slightly warm left knee. He previously had two similar episodes. In each case joint aspiration revealed clear fluid containing only a small number of white cells, and his symptoms were relieved by an intra-articular steroid injection.   This time the attending permitted her medical student to give the injection under her close supervision. The procedure was successful, although very painful because the student had difficulty entering the joint space. Afterward, they learned that there was a pharmacy mix-up, and the wrong medication was injected. The vial had contained 30 mg of progesterone, rather than 30 mg of prednisolone. The attending was upset, but explained that informing the patient about the error would only make matters worse. She reasoned that DJD flare-ups often resolve with NSAIDS alone, and the injection itself may have a strong placebo effect. Admitting the error will only cause the patient to lose confidence. Moreover, it is unlikely the progesterone will do any harm. The attending prescribed NSAIDS and asked the patient to return in a week. On follow-up the knee is somewhat better, but remains mildly swollen and painful.
Case: The patient is mildly demented, but fully functional in terms of activities of daily living. Thus far he has been making his own medical decisions. The patient was admitted for rectal bleeding and found to have sigmoid carcinoma. Surgical intervention will not be curative, but will probably relieve symptoms and prevent future bowel obstruction. However, the patient refuses surgery because, he says, ''I've lived a good life, and what will be will be.'' The patient's wife supports his decision, but seems ambivalent.   The resident has told the student that a patient who refuses beneficial treatment is usually incompetent. He advised getting a psychiatry consult because, in cases like this, the liaison psychiatrist usually ''gets with the program'' and decides the patient lacks decision-making capacity. The resident said he was sure that the patient's wife could be convinced to give her consent.
Case: The student expresses enthusiasm about Dr A's office because it runs so efficiently and patients are ''in and out'' in 15 min. She also likes the fact that pharmaceutical representatives provided lunch in the office on two occasions, each time in association with a presentation about a new drug. She had also heard that one pharmaceutical representative periodically sponsors an evening educational program for Dr A's diabetic patients. (Dr A is an endocrinologist.) The student also liked Dr A as a preceptor because makes hospital and nursing home rounds in the mornings and only has office hours in the afternoons. He doesn't require his students to attend morning activities, so she was able to stay home and study most mornings.
Case: The student is concerned about the attending she worked with the last time she volunteered at the clinic (Dr A). Dr A is a very popular young physician who often entertains students with caustic jokes and stories about patients. On that occasion Dr A spent all afternoon making rude comments about the patients she presented. In one case he gave a patient a large supply of samples of two expensive anti-hypertensive combination medications, rather than a prescription for inexpensive generics, because he said, ''These people won't spend a dime on their meds, but they'll come here in a fancy new car.'' In another case he said, ''Oh, yea, I remember her… has she started taking baths yet?'' The student also complains of how uncomfortable Dr A makes her. He stands very close when they talk and tends to punctuate his points by putting his hand on her arm or shoulder.

feedback received and a second round of reviews was performed. During the second round, reviewers were asked additionally to consider the feasibility of carrying out the cases and to consider the logistical considerations in the recruitment of the SSs/SPs.

This phase took the team 10 months to complete and resulted in the development of eight OSTE cases. The OSTE cases include scenarios addressing concerns about mistreatment of patients and learners, dealing with medical errors, violations of privacy issues, conflict of interest and handling of unprofessional behavior of medical students and health care team members (e.g. attendings, nurses and residents) (see Table 1 for more details).

Two performance checklist assessment tools (one general and one case-specific) were also created for each OSTE case that consisted of both skill and action items. The 10-item general performance checklist, to be completed by the SSs/SPs, focuses on behaviors and action items related to the faculty development participant's (i.e. faculty trainee's) teaching skills. The checklist items were adapted from an instrument based on the Stanford Faculty Development Program's clinical teaching framework (Litzelman et al. 1998). Only statements under the learning climate and feedback categories were used

as they reflected best the teaching skills required for these scenarios. Based on his/her interaction with the faculty trainee during the OSTE case, the SSs/SPs would rate the faculty trainee on a scale of 1–5 with an N/A (not applicable). All SSs/SPs used the same general performance checklist.

The case-specific performance checklist was designed to be completed by a senior faculty observer of the encounter between the SS/SP and faculty trainee. The senior faculty observer would check whether or not the faculty trainee had provided certain details/information or asked specific follow-up questions that would have helped the SS/SP resolve or address the professional/ethical issue regarding the case. The number of case-specific checklist items varies by case ranging from 11 to 14 items and were determined based on the learning objectives that were formulated for each case. See Appendix for an example OSTE case scenario and its corresponding checklists.

Phase 3: Recruiting and training of standardized students

Since some of cases involved a basic understanding of medical knowledge and terminology, we recruited medical students to

play the role of the standardized students. We targeted second year medical students as they had more clinical exposure and knowledge of disease processes than first year students, which we felt would make their role-play more realistic. We avoided third and fourth year students because of demanding clinical responsibilities and schedules, and to avoid any possible conflicts with faculty trainees who may have served as clinical faculty for the standardized students. We also decided that it would be best to conduct the OSTE workshops during the early part of the new academic year and begin recruitment of the SSs/SPs during the summer. An invitation to volunteer as standardized students was sent out to the second year class and 17 students expressed interest. Eleven medical students and three community actors were recruited and trained as SSs and SPs to assure the consistency and reproducibility of the OSTE case scenarios. The initial training session involved reviewing the case objectives and scripted lines of the scenarios, discussing various effective feedback techniques and making sure the evaluation criteria for the checklist items were clear. Once the review of the materials was completed, the SSs and SPs were required to practice the case with a trainer who would "role-play" the faculty role. This practice included the performance of their required scripts as well as the completion of the general checklists with feedback to the role-playing trainer. This allowed for standardization of both the case materials and completion of the general checklist. Minor revisions were made to the OSTE cases based on feedback from the SSs/SPs during the training session.

Phase 4: Conducting a mock training session

One week before the scheduled OSTE faculty development workshop, a mock training session ("the mock") was conducted with the SSs, SPs and senior faculty observers. The mock had several goals. First, the mock allowed the SSs/SPs to practice role-playing the scenarios with faculty members and helped the students become more comfortable with the cases and the roles they were playing. Second, the mock also gave the SSs/SPs another opportunity to practice using the performance checklists that would guide the feedback discussion immediately after each case. The mock training session also allowed the senior faculty observers to review the case specific performance checklists for each case. Another goal of the mock was to help our team identify any potential issues regarding the process and logistical flow.

Phase 5: Recruiting faculty and organizing faculty development OSTE workshops

In order to accommodate the large number of clinical faculty with varying schedules working at different partner institutions, three half-day faculty development OSTE workshops were offered. Recruitment emails were sent by the department chairs to all faculty who teach in the Ambulatory Care, Internal Medicine and Family Medicine clerkships.

During the four-hour workshop held in our Clinical Skills Center, all faculty trainees began by watching a video of a teaching encounter of a preceptor speaking with a medical student about his dissatisfaction with her "lack of enthusiasm". The goals of this warm-up group exercise were to: (1) identify unconstructive and unprofessional teaching behaviors in student–teacher interactions, (2) articulate a general perspective on constructive, formative feedback for students in the clinical setting and (3) provide specific examples of how constructive feedback might be given to the student in the case simulation. After watching the video, as a group, the faculty trainees were asked to reflect and discuss in terms of what strengths and weaknesses they observed in the teaching practice of the preceptor. The warm-up group exercise was then followed by the faculty trainees individually going through seven OSTE cases at different stations and, depending on the case scenario, the faculty trainee was asked to provide the SS/SP instructions/guidance. All the encounters were videotaped and observed by a senior faculty member watching on a monitor outside the room. Each case took 10-mins with another 5-mins for feedback from the faculty observer and SS/SP. A group debriefing session was conducted with the faculty trainees towards the end of the workshop where they were able to review key teaching points and reflect on the experience. Several days after the workshop, each faculty trainee was given a link to a password-protected site that had all of their videotaped encounters for self-reflection purposes.

Data collection

In addition to providing information about their affiliated institutions and teaching responsibilities, faculty trainees were asked to provide personal experiences related to professionalism issues in the clinical setting prior to the workshop. They were also asked to complete a post-Workshop Satisfaction survey and complete a survey on confidence and attitudes about teaching professionalism and medical ethics both before and after the workshop. The measurement tools were created by the team due to the lack of validated instruments in this area and face validity was obtained by consulting a panel of experts. Feedback from the SSs/SPs on the experience and suggestions for improvement was also collected after the final workshop was offered in the format of a focus group.

Results

Twenty clinical faculty ($n = 20$: 50% female) participated in one of the three half-day faculty development OSTE workshops offered. Almost all of the faculty trainees were clinical preceptors; one was a clerkship director. Twelve faculty trainees were affiliated with an academic medical center, four were affiliated with a VA medical center and four were from community private practices. A majority of the faculty trainees reported that they have personally witnessed a colleague or another caregiver: fail to advocate on behalf of a patient when they felt it was necessary (60%), speak in a demeaning manner about a patient (60%) or use his/her position of authority to intimidate, demean, harass or take advantage of a subordinate (70%). One-third of the faculty trainees (35%) indicated that, as clinical educators, they had encountered a professionalism/ethical issue in which a medical student was involved that they did not feel comfortable managing (e.g. end-of-life discussion with family members and student tardiness). When asked if they had any formal training on professionalism and medical

Table 2. Ratings on the pre-/post-confidence and attitudes in teaching survey by faculty physicians who participated in the OSTE workshop.

Survey item	Pre-OSTE workshop mean rating (SD)	Post-OSTE workshop mean rating (SD)*
Professionalism can be taught.	4.47 (0.51)	4.75 (0.44)*
Teaching medical students about professionalism is important.	4.84 (0.38)	5.00 (0.00)
Concepts of professionalism should be included in required coursework for medical students.	4.84 (0.38)	4.75 (0.44)
I have an obligation to enhance medical student's understanding of professionalism including discussing with them about professional/ethical qualities and behaviors.	4.89 (0.32)	4.85 (0.37)
Faculty are adequately trained to discuss and teach about professionalism issues with medical students.	2.68 (1.20)	2.90 (1.17)
I feel confident with my understanding of the professional/ethical qualities and behaviors of others in the medical profession.	3.53 (0.77)	4.00 (0.92)*
I feel confident with my ability to recognize Unprofessional/Unethical behaviors of others in the medical profession.	3.95 (0.85)	4.15 (0.67)
I feel confident with my ability to communicate my concerns/feedback related professionalism/ethical issues with medical students.	3.42 (0.90)	4.20 (0.62)*
I feel confident with my ability to handle a professionalism problem/issue in which a medical student is involved with.	3.37 (0.96)	4.00 (0.73)*
I feel confident with my ability to teach medical students on how to provide culturally competent care.	3.42 (0.96)	4.05 (0.89)*
I feel comfortable with approaching my peers and colleagues regarding problems/issues related to their professionalism and professional/ethical behavior.	2.79 (0.98)	3.68 (0.95)*

*Wilcoxon signed rank test; two-tailed significance, $p < 0.05$.

ethics during medical school training, four faculty trainees (20%) replied yes.

Confidence gained

Due to a small sample size, faculty confidence and attitudes about teaching professionalism and medical ethics before and after participating in the OSTE workshop were compared using the Wilcoxon signed rank test with a statistical significance level of 0.05. There was an increase in faculty confidence of their understanding of the professional/ethical qualities and behaviors of others in the medical profession ($Z = -2.03$, $p < 0.05$), ability to communicate concerns related to professionalism with medical students ($Z = -2.95$, $p < 0.01$), ability to handle professionalism issues when medical students are involved ($Z = -2.29$, $p < 0.05$), ability to teach medical students on how to provide culturally competent care ($Z = -2.35$, $p < 0.05$) and ability to approach their peers and colleagues regarding problems/issues related to their professionalism or professional/ethical behavior ($Z = -2.81$, $p < 0.01$). Table 2 illustrates the change in responses to the Likert-scale survey questions.

Workshop satisfaction and feedback

On a 5-point Likert scale, the majority of the faculty trainees strongly agreed that the information and skills that they learned from the workshop are important to them as clinical educators (75%) and that these information and skills will likely have an impact on the way they teach professionalism and medical ethics in the future (80%). Additionally, all but one faculty trainee reported either agreeing or strongly agreeing that the scenarios were reflective of the issues they generally encounter while teaching medical students. Seven trainees noted that the most valuable aspect of the workshop was the direct feedback received from the senior faculty observers and SSs/SPs. Suggestions for future improvement primarily consisted of the need to either increase the amount of time for

the workshop to allow more time for the interactions and feedback sessions or decrease the number of cases to complete during the same workshop session duration. The Cronbach alpha was 0.94.

The student's perspective

A focus group conducted after the last workshop revealed an unintended outcome of the project which was the sense of empowerment the second year medical students felt from their experience of being standardized students. Although providing feedback to the attendings was a daunting task for the students, the faculty valued and was eager to hear what the students had to say. This in turn was motivating for the students. Through this experience the students were surprised at how individual faculty assessed the same situation differently, and how their varying approaches led to similar results or outcomes. Several students appreciated the opportunity to practice presenting a patient to an attending and therefore felt better prepared for their third year clerkships. Finally, some students commented that now that they have been "behind the scenes" and know how patient simulations work, they feel less anxious about the performance aspect of future OSCEs and will focus more the learning process instead.

Discussion

We successfully designed, developed and implemented OSTEs as a faculty development training tool for teaching professionalism and medical ethics to students in the clinical setting. This is an innovative faculty development strategy in an area that major organizations in medicine recognize the need and value of promoting (Steinert et al. 2005; Trowbridge et al. 2011). Key elements to this success include: (1) having an expert consultant (e.g. medical ethicist) in the content area to help with the development of the OSTE cases, (2) having a team of dedicated and collaborative team members, each bringing to

the project his/her own unique perspective and experience and (3) having a state-of-the-art clinical skills center with qualified and high quality staff.

Faculty feedback collected after the workshops were mostly positive. Areas that faculty trainees reported as having increased the most confidence in were their ability to: approach peers or colleagues regarding problems related to their professionalism and professional/ethical behavior, communicate concerns related to professionalism with medical students as well as handle professionalism issues when medical students are involved.

A challenge we face now is how to educate the remainder of our clinical faculty in this area using the OSTE format. Based on feedback from the faculty trainees, getting busy clinicians to commit to a half-day to attend a workshop is challenging. Therefore when planning to offer faculty development OSTE workshops again, we will consider a shorter timeframe (e.g. 60–90 min), with fewer cases (e.g. 2–3), over multiple days. Nonetheless, although the OSTE workshop was an effective faculty development training tool, the participants were self-selected. To truly make an impact it is important to identify opportunities or institutional venues in which faculty that either need or should have such training is able to receive it. One example would be to include OSTEs during new faculty orientation. Another approach would be to create a more structured clinical bioethics curriculum that utilizes OSTEs as an assessment tool to educate and train clinical educators in a systematic manner. This curriculum could also be offered to residents who are heavily engaged with the learners at the clinical level as well. Residents are typically very busy, have limited time for lengthy discussions and are not uniformly educated regarding the essentials of teaching professionalism and medical ethics. While many may be ideal role models, they do not necessarily have the experience and skills to teach and to assess learners regarding professionalism and medical ethics in a uniform and reproducible manner. Last, in addition to further revising and improving the OSTE cases based on feedback we received from student and faculty participants, we plan to develop additional cases that address issues such as managing patients with mental disabilities or dealing with patients who act in bad faith.

Limitations

This study has some important limitations. First, in addition to the literature review and student needs assessment that was conducted in Phase 1, it would have been helpful to have also surveyed faculty on what issues/topics for which they would like training. Assessing faculty needs could be a future research focus in addition to understanding the reason for the discrepancy in the number students reporting having encountered unprofessional behaviors in the clinical setting and whether or not they wanted guidance from faculty on how to deal with such situations. Second, this study is based on a small sample size that consists of faculty trainees who self-selected to participate in the OSTE workshop and therefore may not be representative of faculty who demonstrate discomfort or require further skill training in teaching professionalism and medical ethics. Another limitation is the

possibility of response and social desirability bias of the faculty participants. Also, our data collection was limited to immediate responses after the workshop. We do not know if changes that the faculty participants reported will have any lasting impact on their attitudes and behavior in the clinical setting as clinical educators. Last, the feasibility for other institutions to use OSTEs as a faculty development tool may be limited as they are extremely time-and labor-intensive to organize. It may be especially challenging for schools that do not have the resources and/or infrastructure (i.e. clinical skills center) required. Coordinating the two critical key players of an OSTE workshop (i.e. clinical faculty as the workshop participants and medical students as the standardized students) is also challenging. Both clinical faculty and medical students have very busy schedules and therefore must be recruited several months in advance. One approach we have adopted to overcome this limitation is to offer such OSTE workshops to faculty from collaborating institutions that do not have the means to provide this type of activity.

Future research

According to Kirkpatrick's (1994) four-level training evaluation model, investigating the impact of the training on faculty behavior in actual clinical settings as they interact and communicate with medical students on issues related to professionalism and medical ethics should be the next area to explore. While direct observation and assessment of faculty actions would be the most appropriate approach, this will be methodologically difficult to do. There are plans, instead, to conduct a follow-up study using end of clinical clerkship student evaluations. At the end of the Ambulatory Care, Internal Medicine and Family Medicine clerkships, all students will be asked to rate clinical faculty in terms of: (1) how comfortable they feel in approaching the clinical faculty regarding issues related to professionalism and medical ethics, (2) how much direct instruction have they received on issues related to professionalism and medical ethics, (3) how much of their uncertainty and concern related to professionalism and medical ethics have been answered or addressed by their clinical faculty and (4) how confident the students feel that they are able to appropriately deal with a professional and or medical ethic issue. The ratings of students who were instructed by OSTE faculty participants will be compared with ratings of students who were not instructed by OSTE faculty participants.

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References

Bulger RE, Reiser SJ. 1993. Studying science in the context of ethics. Acad Med 68:S5–S9.

Burack JH, Irby DM, Carline JD, Root RK, Larson EB. 1999. Teaching compassion and respect: Attending physicians' responses to problematic behaviors. J Gen Intern Med 14:49–55.

Fox E, Arnold RM, Brody B. 1995. Medical ethics education: Past, present, and future. Acad Med 70:761–769.

Hafferty FW, Franks R. 1994. The hidden curriculum, ethics teaching and the structure of medical education. Acad Med 69:867–871.

Kirkpatrick DL. 1994. Evaluating training programs: The four levels. San Francisco, CA: Berret-Koehler.

Lehmann LS, Kasoff WS, Koch P, Federman DD. 2004. A survey of medical ethics education at U.S. and Canadian medical schools. Acad Med 79: 682–689.

Litzelman DK, Stratos GA, Marriot DJ, Skeff KM. 1998. Factorial validation of a widely disseminated educational framework for evaluating clinical teachers. Acad Med 73(6):688–695.

Redmon RB. 1989. A medical ethics project for third-year medical students. Acad Med 64:266–270.

Roberts A, Fincher RME. 1997. Teaching third-year medical students how to handle ethical dilemmas. J Med Assoc Georgia 86:327–329.

Smith S, Fryer-Edwards K, Diekema DS, Braddock III CH. 2004. Finding effective strategies for teaching ethics: A comparison trail of two interventions. Acad Med 79:265–271.

Steinert Y, Cruess S, Cruess R, Snell L. 2005. Faculty development for teaching and evaluating professionalism: From programme design to curriculum change. Med Educ 39:127–136.

Stone S, Mazor K, Devaney-O'Neil S, Starr S, Ferguson W, Wellman S, Jacobson E, Hatem DS, Quirk M. 2003. Development and implementation of an objective structured teaching exercise (OSTE) to evaluate improvement in feedback skills following a faculty development workshop. Teach Learn Med 15:7–13.

Strong C, Connelly JE, Forrow L. 1992. Teachers' perceptions of difficulties in teaching ethics in residencies. Acad Med 67:398–402.

Trowbridge RL, Snydman LK, Skolfield J, Hafler J, Bing-You RG. 2011. A systematic review of the use and effectiveness of the objective structured teaching encounter. Med Teach 33:893–903.