The OSCE as a Tool for the Evaluation of a Pre-Departure Training Program: A Pilot Study

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ABSTRACT

As the number of medical students completing international electives increases, so does the need for appropriate pre-departure training (PDT) programs. Although PDT programs, based on guidelines developed by the Canadian Federation of Medical Students (CFMS), are available across Canada, little information is available on program effectiveness. Our pilot study, using an Objective Structured Clinical Examination (OSCE) methodology, demonstrated variable OSCE performance following PDT. Participant scores improved in the areas of travel safety, language competency, and cultural competency, and declined in the areas of ethics and personal health after PDT. Our study was limited by a small sample size, the lack of formal validation of our OSCE cases, and its specificity to one particular training program. A literature review addressing the use of the OSCE methodology, as well as the results of our pilot study using this methodology, are discussed here. We conclude that the OSCE shows great future potential in global health training.

KEYWORDS: *OSCE, Pre-Departure Training, evaluation*

There is a growing interest in global health amongst medical students and a growing desire to participate in global health experiences.[1,3] The numerous benefits of these experiences have been well documented in the literature with students reporting improved practical skills, as well as significant personal growth and greater insight as future physicians.[2-5]

While there are numerous benefits of global health experiences, there is also concern about the ramifications of sending unprepared medical students on these experiences, including ethical considerations such as the potential for medical tourism and provision of medical care that is beyond the scope of practice for medical students.[6] In an effort to increase preparedness of medical students participating in global health experiences, the Canadian Federation of Medical Students (CFMS) acknowledged a need for comprehensive Pre-Departure Training (PDT).

To this end, in 2008, the CFMS released national PDT guidelines for medical students traveling to low-resource settings.[7] These guidelines identified five core competencies that students should become proficient in prior to their departure: cultural competency, language competency, personal health, travel safety, and ethics.

Since 2008, the need for PDT has been widely recognized and different forms of PDT have been implemented across Canadian medical schools.[2, Oral communication, Mary Halpine, Feb 2012] While there is a consensus on the need for PDT, there is a lack of consensus on whether it is effective as currently delivered.[5,8] Previous research, conducted using Kirkpatrick's methodology of learning evaluation, into the effectiveness of one-day PDT programs demonstrated an increase in self-reported confidence (Kirkpatrick level 1) among participants after training.[2,9] Ongoing research into the effectiveness of PDT and various PDT programs is imperative to better delineate the most effective PDT for medical students.

A potential tool for PDT evaluation is the Objective Structured Clinical Examination (OSCE), which would evaluate behavior (Kirkpatrick level 3) following PDT completion. OSCEs have been ubiquitous in evaluating health care education for many years due to their reliable and valid design.[10] While the OSCE has never before been used to evaluate global health competencies as part of a PDT program, previous studies have shown considerable utility in using OSCEs for the evaluation of cultural competency and ethics.[11-14] These studies used the OSCE methodology with varying levels of success and reported various issues and recommendations.

Several issues have been reported in the literature from the use of OSCEs. For instance, OSCE scenarios may not accurately reflect several aspects of real-life situations. As a 2009 study by Hamilton notes, the time constraint of OSCE stations, the lack of a relationship with the actor, and inconsistencies in actor training place artificial constraints on the situation.[11]

Furthermore, assessment in OSCE scenarios can also be artificial. Checklists are defined based on an expected interaction; however, real interactions are dynamic and variable.[11] As a result,

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it may be difficult to achieve all of the checklist items listed, especially when alternate routes of resolution exist.

In addition, checklists can be problematic in assessing ethical competency. In evaluating ethics, a study by Singer and his colleagues noted that it was difficult to comprehensively assess ethical competency solely on the basis of a checklist evaluation from an OSCE.[14] Other studies have noted the benefit of coupling a global assessment rating with the OSCE checklist for better overall evaluation of the OSCE.[10]

Based on the extensive literature demonstrating the utility of the OSCE methodology, as well as the literature describing some of the problems with this methodology, we conducted a pilot study to evaluate PDT using the OSCE format as a tool for assessment. In consultation with global health experts, literature reviews, and the CFMS PDT guidelines, a pre- and a post-training OSCE scenario and corresponding checklist was developed for each of the PDT competencies described previously.[Oral communication, A. McCarthy, Feb 2012] Actors were trained and unchanged from pre- to post-training OSCE. The OSCE interactions were videotaped and analyzed by blinded evaluators using the predetermined checklist items. The same analyst scored both sets of videos for each station to avoid inter-rater variability.

Our sample size was small (n=5) given the pilot nature of our study and our results were mixed depending on the competency assessed. An improvement in checklist score after training was seen in the areas of travel safety (+22%, $p < 0.05$), language competency (+5%, $p > 0.05$), and cultural competency (+19%, $p < 0.05$). A decline in checklist score after training was seen in the areas of personal health (-24%, $p < 0.05$) and ethics (-10%, $p < 0.05$).

Increase in checklist scores corresponded to competencies that were easier to teach and assess objectively. For example, travel safety was assessed by the ability to demonstrate preparation for a global health elective, which is information easily imparted upon students and easily assessed by a checklist. Declines in checklist scores in the area of ethics may be accounted for by the difficulty in teaching an ethical framework and assessing that framework. As a result of this, and in agreement with the literature on OSCE use in assessing ethical competency, we suggest the addition of a global rating score for ethical assessment. The decline in checklist scoring in the realm of personal health may be explained by a lack of congruency in information delivered at PDT and OSCE case scenario. For example, personal health competency as taught by the PDT instructors focused on immunizations and personal protective medications and equipment. The OSCE case scenario, however, focused on refusal of unsafe procedures that may have resulted in needle-stick injury or exposure to contaminated instruments and blood products.

While we can postulate reasons for an improvement or decline in checklist scoring, we hesitate to draw firm conclusions from this data given the limited number of participants in our pilot study.

In the course of our research, we encountered difficulties not previously described in the literature. The ambiguity of some CFMS PDT objectives made their translation into cases and checklists challenging. For example, the guidelines state that "students should be exposed to an array of potential ethical dilemmas ... and be provided with a framework to approach such problems."[7] The guidelines, however, are not explicit on the framework and the ethical dilemmas to be addressed. Recognizing that variability in ethical frameworks exists, Pinto and Upshur, in 2007, proposed a global health ethical framework designed for students using four principles: humility, introspection, solidarity, and social justice.[16]

The CFMS PDT guidelines are also not comprehensive of all key points for a given competency. For instance, the CFMS guidelines do not stipulate the refusal of unsafe procedures as part of the Personal Health competency. Due to the ambiguity of the PDT guidelines, there was inconsistency between the material covered during PDT and the case scenarios of the OSCEs. While both the instructors and the case developers created their respective PDT materials using the CFMS guidelines, both parties interpreted the PDT guidelines differently. With a lack of clarity of what knowledge is essential and what is optional for PDT, it is difficult to ensure that there is consistency of PDT content locally, or even nationally.

Our study had several limitations. As mentioned previously, by virtue of being a pilot study, our sample population was small. In addition, we used a very specific study population: medical students from Western University who attended PDT at Western University. This specificity may not allow the finding of this study to be generalized to other PDT programs. Our OSCE scenarios and checklists, while created in consultation with global health experts, have not been formally validated. Our standardized patients were peers known to the sample population, thus creating somewhat artificial scenarios. Future PDT research using the OSCE method would benefit from addressing these issues in order to refine this methodology.

Through the development of this OSCE methodology, we have several recommendations for future research. Firstly, we recommend that learning objectives for PDT programs be clarified to minimize variability in learning experiences and to better evaluate the program. In addition, we recommend that the CFMS PDT guidelines be reviewed for clarity and comprehensiveness. The OSCE cases and the corresponding evaluatory checklists should also be further developed, with the inclusion of rigorous reliability and validity testing. Where possible, we also advise the use of professional standardized patients as actors in the OSCE. With these recommendations and further methodology refinement, the OSCE has the potential to be a promising new assessment tool in global health education.

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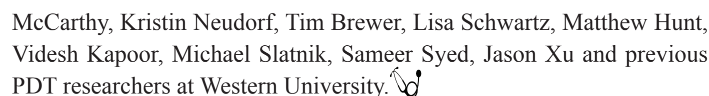

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Politics and Public Health: HIV Prevention and *The Wisdom of Whores*

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ABSTRACT

The Wisdom of Whores, a 2008 non-fiction work on the on-going HIV epidemic, properly assesses the current state of HIV interventions and many of the political, social, and economic barriers that are encountered by public health professionals. This book notes the use of peer outreach among at-risk groups, an intervention that has been important in mitigating the spread of this pathogen. Furthermore, its candid documentation of the creation of UNAIDS makes Wisdom a mainstay of any public health worker or epidemiologist's library.

KEYWORDS: *HIV, public health*

Elizabeth Pisani's 2008 autobiography-cum-HIV narrative, *The Wisdom of Whores: Bureaucrats, Brothels and the Business of AIDS*, offers an unflinching look into the global rise of HIV/AIDS, the politics behind this disease, and its acute impact in South-East Asia. Pisani, a reporter-turned-epidemiologist, narrates HIV issues with a journalistic flair and unapologetic views of more recent HIV issues, including the rise of underdevelopment as the major contributing factor to HIV spread. This, according to Pisani, has become a predominant lens through which the epidemic has been viewed, because it is less controversial for politicians to discuss development as opposed to sexual intercourse and injection drug use.[1(pg.125)] In her opinion, this eclipses the sexual aspects of the disease, leading to the neglect of interventions that could prevent the sexual transmission of this disease.[1(pg.125)]

The history of HIV, the early years of the disease's spread through San Francisco bath houses, as well as the gay community and the creation of the Joint United Nations Programme on HIV/AIDS (UNAIDS) are also well documented in Wisdom. Pisani comments on the initial rapid uptake of condoms among gay men as well as the current concern among public health workers about declining condom rates in this population, which she attributes to the advent of effective anti-retroviral drugs.[1(pg.174)] Her commentary on the creation of UNAIDS is insightful with regards to the infighting and jurisdictional disputes brought about

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