



Benefits and Challenges of Global Teaching Using Videoconferences

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BACKGROUND

Videoconferencing is an established method in medical education. Our aims were to assess the following in this pilot study:

1. To assess the feasibility of video conferencing method in post-graduate dental education.
2. To evaluate the practicability of video conference as an educational means.
3. To evaluate teacher satisfaction and trainee opinion about the efficiency of this method.
4. To explore other learning opportunities that may be discovered through collaboration with other health care education institutions throughout the globe.

INTRODUCTION

This study's aim was to evaluate novel methods of teaching a graduate course at the School of Dentistry, University of Michigan (UM). Dr. Papagerakis directs the graduate course (596) entitled Etiologies and Management of Congenital Defects of the Craniofacial Complex, which is offered to the Pediatric Dentistry Residents (6/year).



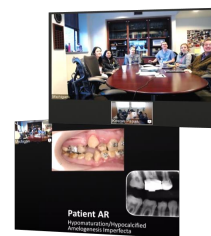
For this course the residents present clinical cases with a focus on the diagnosis and treatment options for each case and support their decisions based on evidence found in the literature. To improve the assimilation of the material through discussion and promote the exchange of ideas in terms of treatment options we have initiated a series of collaborative videoconference teaching between the University of Michigan and other schools worldwide. Our hypothesis is that by connecting the UM class to similar classes worldwide we will greatly enrich the experience of our graduate students (residents). Another advantage of integrating videoconference teaching into the curriculum is to learn sharing ideas with different health professionals at different schools worldwide. Our hope is that this initial exchange may also result in more concrete educational and research collaborations.

Acknowledgments:

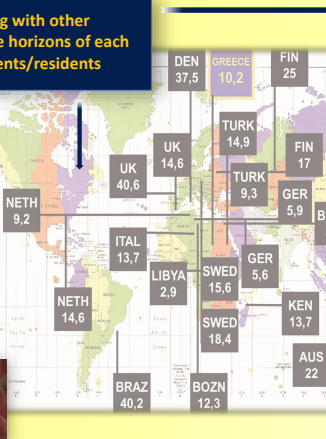
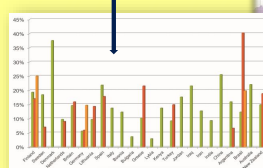
We would like to thank the UM and UA Dental Schools IT offices and all residents and faculty. This work was supported by a CRLT Faculty Development fund (#421686) and a UM Global Teaching with Videoconferencing grant (#196796) to PP.

METHOD

We organized two initial series of videoconference teaching (winter and spring semesters of 2015) with the Aristotle University (UA) of Thessaloniki, Greece using Umich Bluejeans. Each school presented several clinical cases and proposed several possible diagnoses and treatment plans. Then discussion was held in terms of differential diagnosis and alternative treatment options. The videoconferences were recorded and analyzed afterwards. Evaluation was also achieved by a simple questionnaire offered to our residents and to the residents of the participant other University.



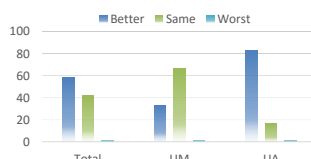
An example of how collaborating with other international schools can broaden the horizons of each of the participating schools' students/residents



Molar Incisor Hypomineralization (MIH) is a common developmental condition resulting in enamel defects in first permanent molars and permanent incisors. Since first recognized, the condition has been puzzling and interpreted as a distinct phenomenon unlike other enamel disturbances. Although a great deal of research has been put into this condition and its diagnosis, etiology and treatment options, it is not as widely known in the US as it is internationally. Even the prevalence of the condition is not well investigated in the US. Collaborating with other health care professionals throughout the globe can broaden the horizons of the future health care professionals. In this study for example we witnessed that the US dental residents had the opportunity of discussing this condition with the residents of the foreign institution and they found this opportunity very helpful.

RESULTS

Significant more discussion was generated during the case presentations through videoconferences when compared to previous years' seminars. The majority of the students (58.3%) liked better the videoconference teaching than the traditional classroom seminars. Interestingly, a difference was noted between the opinions of US dental residents versus Greek dental residents. The number of US residents who found this experience better than traditional teaching method was 2 out of 6 (33.3%) versus the Greek residents that 5 out of 6 of them (83.3%) found this experience better than the traditional teaching method. None of the residents found this learning experience worse than their routine seminars.



Residents' reflections on the video conferences when they were asked to compare them to traditional teaching methods

SUMMARY

This pilot study provides foundation for using videoconference teaching as educational tool in the future. Although the number of trainee residents who participated has been limited, there seem to be strong support among them towards this type of educational method. Several positive and constructive comments were received in the surveys and will be used to improve the experience of the students. Some of the suggestions were the following but not limited to:

- Running discussions using Case Based method
- Discussing trauma cases
- Having other specialties involved in the case discussions
- Discussing various treatment modalities for the same clinical situation

In summary, this educational project has motivated the participants to pursue further investigation and to involve more departments in the study so that reliable statistical data can be provided. We envision continuing this effort by connecting 2-3 additional programs from other universities. This may also result in the creation of a collaborative collection of clinical cases in Pediatric Dentistry with participation of all involved departments. This can be in form of a limited or open-access website with forums for additional on line discussion. Participation of additional specialties is also envisioned.