

SHORT COMMUNICATION

THE IMPACT ON DENTAL STUDENTS' KNOWLEDGE IN THREE EUROPEAN COUNTRIES THROUGH AN ONLINE MODULE ON ANTI-BIOTIC PRESCRIBING: A PRELIMINARY STUDY

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Introduction

It is well documented that antibiotics are overprescribed across the world [1]. Furthermore there are differing antibiotic prescribing practices across Europe. For instance, for antibiotic prophylaxis against infective endocarditis, recommendations differ in Austria [2] the UK [3] and Italy [4]. With student mobility across Europe, students must understand the different regimes and consequences of overprescribing for patient safety. In this preliminary study, the knowledge and impact on dental student understanding of antibiotic prescribing practice in the three EU countries was evaluated through the intervention of an online module.

Materials and Methods

A short online module was designed in the open source virtual learning environment called Moodle. The module was authored in English to cover antibiotic prescribing and highlight current recommendations and regimes across Europe. The course provided two learning activities in the form of an antibiotics webcast from the UK (Figure 1) and a prescribing game with a virtual patient relevant to all three countries.

Volunteer final year dental students with good English skills from the Vienna Dental School (Austria), King's College London Dental Institute (UK) and Brescia Dental School, Italy were invited to take part in the study. The course was available to all students and was part of their usual therapeutic training. Online pre and post questionnaires were used to evaluate the impact of the course on the student's knowledge. The questions concerned the indi-

cation when antibiotics should be prescribed, the medical history and prophylaxis as well as the first line regimen of antibiotics used in initial treatment and its dose. The total score was compared between pre and post intervention using a mixed linear regression model to account for the cluster effect of student in the pre- and post-intervention assessments. McNemar test was used in the analysis of individual questions. A standard module feedback questionnaire evaluated the students' perceptions of the module.



Figure 1: Screenshot of antibiotic webcast, Kings College London Dental Institute and the School of Pharmacy

Results

39 respondents completed the pre and post questionnaires. Austria: n= 10; UK: n= 19, Italy: n= 10. Overall there was a 10% improvement between the pre and post questionnaire tests. In Italy there was a 50% increase in knowledge (Figure 2). On a mixed linear regression model fitted to the total score, the difference between the post and pre-inter-

vention means was highly significant; the total mean score increased on average by 0.9 (95% c.i. 0.28 to 1.52; $P=0.004$) after the intervention in question.

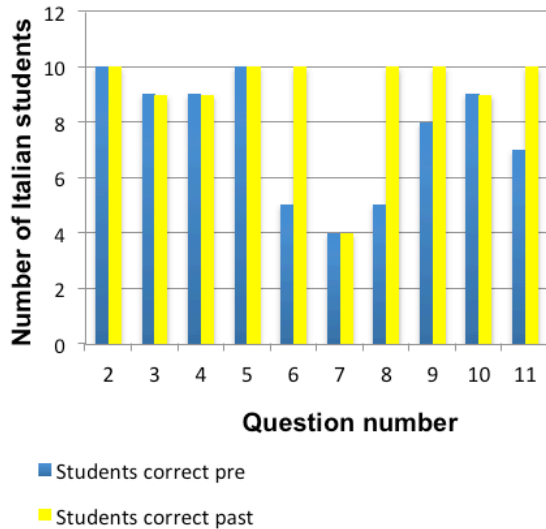


Figure 2: Italian Cohort pre and post questionnaire results

13 of the 39 students gave voluntary feedback on the module questionnaire. None had used the virtual learning environment Moodle before. 70% felt that their prescribing skills had improved.

Discussion

Students were able to improve their questionnaire scores ($P=0.04$) following the intervention of the course. None has used Moodle before, and the lower numbers of respondents in the module feedback questionnaire was considered in part, due to possible language difficulties. Some students revealed that they relied on local advice rather than recommendations which may have also influenced their answers. More detailed local mapping of teaching will be required before widening the study and identifying numbers and types of student cohorts under test. Students must be alerted to differing regimes as they can practice across borders when they are EU dentists.

Conclusion

Understanding antibiotic prescribing across Europe has been supported by the intervention of an online module that was perceived as a helpful and effective learning tool. Although there are still differing recommendations for antibiotic prescribing across Europe, students and staff must be alerted so they can practice safely across borders.

References

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