Protocol

Title

The effect of medical students' exposure to oral and maxillofacial surgery: A prospective observational multicentre cohort study

Authors and affiliations

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Declaration of interests

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Background and Significance

Oral and Maxillofacial Surgery (OMFS) is one of the ten surgical specialities recognised by the General Medical Council (GMC) and endorsed by the Royal Colleges of Surgeons (RCS) in the United Kingdom.[1] At present, specialising in OMFS in the UK requires both a medical and a dental degree. The majority of OMFS surgeons have traditionally first trained as a dentist and subsequently as a doctor[2], although this trend seems to be reversing over the last decade. The implementation of accelerated graduate courses in dentistry has had an impact on the gradual increase in the number of those who train as a doctor first (Table 1).[2] Bachelor of dental surgery (BDS) refers to those who entered speciality training with dentistry as a first degree. Despite a slow gradual increase in those who have a medical degree (MB) as their first degree, there is still a significant gap.

Year of certificate of completion	BDS	MB
1996-2000	115 (99%)	1 (1%)
2001-2005	83 (98%)	2 (2%)
2006-2010	87 (88%)	12 (12%)
2011-2015	113 (88%)	16 (12%)
2016-2029	66 (73%)	25 (27%)

Table 1. The number and percentage of those who entered OMFS training with either BDS or MB as their primary degree.[2]

The undergraduate surgical curriculum set by the GMC and the RCS outline that required learning outcomes could be achieved during Otorhinolaryngology and/or OMFS placements for students.[1,3] This means that medical schools could allocate students to only one of the two surgical specialities. The curriculum also specifies that medical students should develop an understanding of the ten surgical specialities and 35 surgical conditions deemed essential for every graduating doctor to comprehend.[3]

Evidence suggest that 53.2% to 72.3% medical students had inadequate knowledge of the training requirements and pathways for OMFS specialty training.[4,5] 64% to 81.9% had no exposure to OMFS during their undergraduate medical degree.[4-8]

Of note, the British Association of Oral and Maxillofacial Surgery (BAOMS) produced an overview highlighting the important link between OMFS and other hospital and non-hospital specialities.[9] Yet, 38.1% to 56% medical students were not able to appropriately refer to OMFS.[4,5,8] Interestingly, examination of the oral cavity is currently not incorporated in the curriculum, nurturing uncertainty in newly qualified doctors regarding detection and treatment of a number of conditions in the oral cavity.[10] This could be attributed to factors related to the clear underrepresentation of OMFS among undergraduate medical students. A recent study (n = 47) demonstrated promising results after delivering a focussed simulation for undergraduate medical students. Students

were able to retain the knowledge gained from the educational experience for up to six weeks.[11]

Study aims

The primary outcome of interest in this study is medical student perception and understanding of OMFS before and after exposure to placements in an oral and maxillofacial unit.

Secondary outcomes will be as follows:

- Improvement in knowledge of anatomy and/or OMFS conditions.
- Confidence in recognising appropriate referrals to OMFS.
- The percentage of students considering OMFS as a tentative career pursuit.
- The impact of involvement in academic work (e.g., audit, QIP, systematic review, etc.) on student interest in the specialty.

Administrative organisation

This investigation will be conducted in the oral and maxillofacial department of Royal Blackburn Hospital, Musgrove Park Hospital, John Radcliffe Hospital, and University Hospitals of Derby & Burton. Data collection will be done in all sides by all investigators; data storage, analysis and management will be the responsibility of the lead unit/organisation (ELHT/UCLan)

Study design

In this prospective cohort study, students in their penultimate or final year will be requested to take part in our study and asked to fill out an anonymised survey

before the start of their clinical attachment, and once again at the end of their placement.

The baseline data regarding student's knowledge and perception of OMFS will be collected before placements by the means of anonymised online surveys by FH, SL, and DV. The follow-up data collection regarding the improvement of knowledge and perception will be done during the final placement week. The survey used for data collection is available in Appendix. The main form of contact in this prospective study will be via email.

Data Analysis

The cohorts of interest in this study are the pre-intervention group, prior to exposure to OMFS clinical attachment, and a post-intervention group, following OMFS specialist clinics, multidisciplinary meetings, and theatre.

The software used for data collection will be Google Forms. The results of the data collection will be presented in a graphical form for the outcomes assessor (PK) to analyse. All the data will be securely stored on the Google Drive with restricted access only for investigators of the study in accordance with the Data Protection Act 1998.[12]

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Appendix

Date: **Site of placement:**

1) Have you had any exposure to Oral and Maxillofacial Surgery (OMFS)? ☐ Yes | ☐ No

   a. If yes, how were you exposed? *(medical school, conference, or other)*

2) Does your medical school provide any form of teaching directed at OMFS? ☐ Yes | ☐ No

3) Would you consider pursuing a career in OMFS in the UK? ☐ Yes | ☐ No

4) How familiar are you with the requirements and length of training in OMFS in the UK?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Not familiar at all *Quite familiar*

5) Are you aware of the different surgical training routes to OMFS? ☐ Yes | ☐ No

Example: core surgical training/run-through

6) How confident would you feel in distinguishing conditions between ENT surgery and OMFS?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Not confident at all *Very confident*

7) How familiar are you with the range of surgical procedures conducted by OMF surgeons?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Not familiar at all *Quite familiar*

8) Are you aware of the conditions encountered in OMFS? ☐ Yes | ☐ No

9) Do you know of the subspecialities under OMFS? ☐ Yes | ☐ No

10) How confident are you in examining the oral cavity and identifying abnormalities?

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

Not confident at all *Very confident*