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Division of Anatomy

Introduction

- Curricular hours dedicated to anatomical sciences have continually decreased in dental education, leading to limited depth and breadth of anatomy content for dental students.¹
- It is challenging to determine the relevant anatomy that needs to be taught to dental students for their dental practice due to the lack of an agreed upon syllabus of anatomy dental curricula.²
- Contrary to dental curricula, there has been some efforts to revise the learning outcomes for different anatomical regions in medical curricula.³
- Students' motivation to learn anatomy is correlated with their perception of the relevance of what they are learning to their clinical practice.⁴
- The aim of our study was to assess the essential anatomical structures in dentistry from the perspective of academic dentists as well as from anatomists who teach dental gross anatomy, with the goal of utilizing this dataset to understand the anatomy content essential to be delivered in dental curricula.

Methods

- Study approved by the Institutional Review Board (IRB) at The Ohio State University (OSU) (IRB approval number 2024E0494).
- An extensive "smart survey" was developed for clinicians (of all professional health disciplines) and anatomists (see Poster Board Harmon et al., for more details about the survey). The survey asked participants a series of demographic questions and to rate the relevance of 1,156 anatomical structures across seven anatomical regions to the field of dentistry using a seven-point Likert scale (7 = Essential, 1 = Not Important).
- A directory of dentist was created from public information found on the American Dental Education Association, Commission on Dental Accreditation, and individual dental school websites. Anatomists were recruited through the AAA and AACA to participate.
- 5,134 emails were sent to dentists teaching at dental schools in the US, 433 emails were undeliverable for various reasons.
- 45 dentists completed the survey for a response rate of 0.96%.

Statistical Analysis

- Descriptive statistics were assessed for each structure and classifications of importance were assigned based on mean ratings. A one-group multivariate t-test was performed for clinicians to compare their overall ratings of the seven regions. A one-way ANOVA was performed to compare ratings of anatomists to that of clinicians and to compare ratings of anatomists teaching in DDS/DMD programs to that of anatomists teaching in MD programs on overall ratings of the seven regions.
- Rating averages for each structure were calculated and classified into one of four categories: Essential (5.51-7.0), More Important (4.01-5.50), Less Important (2.51-4.0), and **Not Important** (1.0-2.50).

Essential Anatomy in Dentistry

Results

Among Anatomists:

perineum (P&P) significantly higher than anatomists teaching in DDS and DMD programs (p < 0.001), with large effect sizes for each.

Anatomists vs. Dentists:

 \succ There was no statistically significant difference in the importance of anatomical structures between anatomists teaching in DDS/DMD programs and academic dentists for any of the seven anatomical regions.

• Among Dentists:

- than structures in the back, UL, LL, THX, ABD, and P&P (p < 0.001).
- Back significantly higher than LL (p = .011).
- > All 261 structures in the H&N were classified as essential by dentists.

Anatomical Region	Essential	Е%	More Important	MI%	Less Important	LI%	Not Important	NI%	TOTAL
Back	0	0.0%	28	45.9%	29	47.5%	4	6.6%	61
UL	0	0.0%	46	24.3%	142	75.1%	1	0.5%	189
LL	0	0.0%	0	0.0%	0	0.0%	159	100.0%	159
тнх	0	0.0%	89	76.1%	28	23.9%	0	0.0%	117
ABD	0	0.0%	40	22.2%	127	70.6%	13	7.2%	180
P&P	0	0.0%	0	0.0%	11	5.8%	178	94.2%	189
H&N	257	98.5%	4	1.5%	0	0.0%	0	0.0%	261
Total	257		207		337		355		1156

Anatomists

Dentists

Anatomical Region	Essential	Е%	More Important	MI%	Less Important	LI%	Not Important	NI%	TOTAL
Back	0	0.0%	36	59.0%	25	41.0%	0	0.0%	61
UL	0	0.0%	0	0.0%	189	100.0%	0	0.0%	189
LL	0	0.0%	0	0.0%	159	100.0%	0	0.0%	159
ТНХ	0	0.0%	86	73.5%	31	26.5%	0	0.0%	117
ABD	0	0.0%	40	22.2%	140	77.8%	0	0.0%	180
P&P	0	0.0%	0	0.0%	189	100.0%	0	0.0%	189
H&N	261	100.0%	0	0.0%	0	0.0%	0	0.0%	261
Total	261		162		733		0		1156

> Anatomists teaching in Doctor of Medicine (MD) programs rated anatomical structures in the upper limb (UL), lower limb (LL), thorax (THX), abdomen (ABD), pelvis and

> Among dentists, structures in the head and neck (H&N) were rated significantly higher \succ Dentists also rated THX significantly higher than LL, ABD, and P&P (p < 0.027); and

- health professional learner.

- more subjective.

- education, 67(3), 375–379.



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Discussion

• Anatomists teaching in MD and DDS/DMD programs differ in the relevance they place on anatomical regions, indicating the importance of tailoring anatomy curricula to the specific

• Anatomists in DDS/DMD programs, as well as dentists, universally recognize the importance of anatomical structures across all seven regions to different degrees with the anatomy of the head and neck being essential. Our findings align with those of a previous study, which highlighted oral surgeons' perspectives on the need to expand anatomical education beyond the head and neck to include regions such as the thorax and abdomen.⁴ • Dentists rated all head and neck anatomical structures as essential, and anatomists rated all but 4 structures as essential, recognizing their direct relevance to dental practice for performing procedures and administering anesthesia.⁵

Conclusion

• Anatomical regions vary in their importance to dental education and clinical practice, as viewed by both anatomists and dentists. Furthermore, within each anatomical region, the relevance of specific anatomical structures also differs.

• Anatomy educators in professional schools and allied health programs should consider tailoring the anatomy content they deliver to meet the specific needs and focus areas of their students, ensuring that the material is relevant to their future clinical practice.

Limitations

• The dentists who participated in this study come from various specialties, and depending on their area of focus, their emphasis on different anatomical regions/structures may vary.

 Anatomists teaching in DDS/DMD programs may lack direct dental clinical experience, which could make their ratings of anatomical structures and their relevance to dentistry

• The small sample size limits the ability to generalize the results.

• The length of the survey might have discouraged participants to participate in the study.

Significance/Implication

• This study provides the importance of different anatomical structures in the field of dentistry. The survey findings will provide dental anatomy educators with a blueprint for updating or developing their curriculum with the essential anatomy for dental students.

References

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