

Recommendations by Teachers, Undergraduate Students: Oral Anatomy and Histology

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Abstract

In the recent past, there has been a lot of change in dental education worldwide. Confusion still exists about the oral anatomy and histology to be taught to the dental undergraduate. We did an interview based survey, to try to evaluate the quantum of oral anatomy and histology that should be taught to the dental undergraduate. The results suggest that making oral anatomy & histology hybrid approaches and clinically oriented advantageous.

INTRODUCTION

There has been a lot of change in dental education world wide. Conventional discipline based curricula are being replaced by problem based learning curricula. Both these curricula have advantages and disadvantages when followed in their pure form. The problem based learning curriculum (PBL) is advantageous in having a better setting for promoting interest, motivation, self directed learning and developing the inquiring mind.¹ The PBL system looks into the relevance of anatomical knowledge and helps to eliminate the outdated teaching that is cluttering the undergraduate dental basic training programs. However, one of the deficiencies of PBL system is lack of a precise definition of the core curriculum. The study conducted by Friedman et al. (1990) shows that the basic science knowledge of graduates from PBL-based programs is poor compared to the graduates of a more conventional curriculum.²

Dental colleges in India are now facing issues regarding Oral anatomy and histology education and curriculum reform. The main objective of current interview based study was to evaluate the exact anatomy that has to be taught to the dental undergraduates and to appreciate the scope and relevance of the subject in the life of a general dentist.

SURVEY DESIGN

In the current study, the interviewers included teachers of dental colleges, undergraduates dental students, and general practitioners. The rationale for selecting these three groups of interviewees is that the teachers most often have

experience in teaching in their subject only. Students learn other subjects along with Oral anatomy & histology and find the application of this subject knowledge and skills in other dental subjects. The general dentists are unspecialized doctors (B.D.S.) and they can tell what exactly the role of Oral anatomy and histology knowledge is in their dental practice. The teachers interviewed were grouped into those from basic dental science departments and clinical departments. Students interviewed were grouped into those in conventional curriculum and problem based curriculum. The third year of curriculum as the curriculum was discipline based.

The interviews were conducted with the help of a semi-structured interview format. But the questions asked to different participants were not always the same. The researcher had to change the style and numbers of the questions according to the time available, site of the interview and the subject being interviewed. Prior to the interview, the purpose of the interview was explained to the interviewer and anonymity was ensured. At each stage of the interview, care was taken to keep the participant at ease in every stage of the interview by keeping the environment informal. The interviews were based on the main research question and main research question changed for teachers, students and the practitioners.

SURVEY QUESTIONNAIRE

The main research question asked to the Oral anatomy & histology teachers was, what oral anatomy and histology has to be taught to the dental undergraduates? Further, they were

asked to talk about the drawbacks in the teaching/learning and evaluation methods in the curriculum. They were also asked to give suggestions to improve the teaching/learning and evaluation methods in oral anatomy and histology. In the case of teachers of other disciplines, the main research question was, what amount of oral anatomy and histology knowledge is required for a dental undergraduate to understand the basics of your discipline? The main question was followed by soliciting suggestions on improving the oral anatomy and histology curriculum to suit the needs of their discipline.

The main research question for general dentist was, what amount of oral anatomy and histology knowledge are you using now in your practice? The main question was followed by questions such as, when exactly did you use your anatomy knowledge other than during practice?

Interviewing the students, the main research question was, what is the oral anatomy and histology knowledge required to understand the other scientific disciplines? The question was followed by questions such as what topics of oral anatomy and histology are not relevant to you know? What changes do you wish to see in the oral anatomy and histology curriculum? The teachers were interviewed in their offices and duration of interviews ranged 60-70 min. The students were interviewed formally and informally at lecture hall and duration of interview ranged from 60-70 min. The general practitioners were interviewed in their lecture hall at the time convenient to them and the researcher.

Among 52 oral anatomists interviewed, 38 were teaching in a conventional curriculum and the rest was in the PBL curriculum. Basic dental science teachers were from oral anatomy and histology, oral microbiology and pathology, pharmacology. The teachers interviewed in the clinical side were from the departments of oral medicine, oral and maxillofacial surgery, operative and conservative dentistry, pedodontics and preventive dentistry, orthodontics, periodontics, prosthodontic, oral radiology and diagnosis and preventive and community dentistry.

Among the 60 students interviewed, 3 were from the conventional and 30 were from the PBL curriculum. In the case of the conventional curriculum, the students were selected from the preclinical and clinical phase. This criterion was used because the clinical relevance of anatomy become apparent to them only after entering. During the interviews, the researcher noted the responses of the interviewees. The interviews were summarized at the end of

the same day. While summarizing, neither the same wordings nor the whole lot of information was taken into consideration was stored for subsequent analysis.

RESULTS

The recommendations of the interviewers were as follows:

- Oral anatomy and histology of teachers as the conventional system:
- Clinical orientation has to be given
- Subject content has to increase
- Number of lectures has to increase
- Self-directed learning has to be incorporated
- Small group activities has to increase
- Oral anatomy and histology teachers as the PBL system :
- Introduction of PBL in the third year of the course

PRECLINICAL AND PARACLINICAL TEACHERS

Oral microbiology: Cut down the subject content

Oral pathology: more emphasis on histology

Pharmacology: Cut down the subject content.

Teacher of clinical discipline and Oral medicine: emphasis on dental clinical orientation

Oral and maxillofacial surgery: oral anatomy, functional anatomy of TMJ, ossification process, identification of fractures in the radiographs.

Pedodontics: emphasis on embryology, anomalies.

Oral radiology and diagnosis: emphasis on knowledge of oral anatomy

Conservative dentistry: emphasis on tooth anatomy, root length and information of TMJ.

Prosthetics: Tooth anatomy, TMJ and anatomy of perioral tissue.

Orthodontics knowledge of TMJ, hand wrist radiograph, cephalogram, tooth anatomy and knowledge of oral and perioral anatomy.

Periodontics: more emphasis on periodontal ligament

anatomy, tooth anatomy, gingival type and alveolar bone

Preventive and community dentistry: only knowledge of oral anatomy.

General dental practitioners: superficial knowledge of tooth anatomy, TMJ joints and avoidance of information overload.

Students of the conventional system:

More time for self directed learning, encourage small group discussions, clinical orientation has to given in second year, patient exposure in second year, integration of the subjects, design anatomy postings during the clinical phase.

STUDENTS OF THE PBL SYSTEMS:

- Increase the number of lectures
- Oral anatomy has to be taught before brainstorming sessions of PBLs, lectures are essential on embryology topics.

DISCUSSION

The results of the study show that there is an increased need to teach clinically oriented oral anatomy and histology for under graduates. The teacher of conventional curriculum invited small group teaching methods and increase the number of lectures. The teachers of the PBL system recommended starting the PBL sessions in third year of the course after the students acquire the knowledge of oral anatomy and histology. The basic science disciplines recommended cutting down the subject content. The student of the conventional system suggested to show patients

during second year and also to have some oral anatomy and histology classes during their clinical years whereas the students of the PBL system recommended PBL sessions starting from the third year of the curriculum.

The results of this interview survey suggest that neither the problem based curriculum nor the discipline based curriculum is a complete curriculum. When a student is learning his oral anatomy and histology, he would not know the usage of anatomy. When he really starts to use his knowledge of oral anatomy, he finds that whatever he learned was forgotten and what he remembers is irrelevant. It is responsibility of the teachers of various disciplines to frame an anatomy curriculum that suits the needs of the student. The recommendations as the students have to be kept in mind and short postings or some lectures in oral anatomy and histology during their clinical years would help them greatly. The results encourage framing a hybrid curriculum for oral anatomy and histology, which is clinically relevant and student centered.

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