

# Perception Study of Relevance of Oral Biology Amongst 1st Year BDS Students, Dental House Officers & Post-Graduate Trainees in DUHS

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## ABSTRACT

**Objectives;** To investigate the significance of Oral biology course in dentistry amongst 1<sup>st</sup> year BDS, interns and postgraduate students.

**Study Design:** Cross sectional study

**Place and Duration of Study:** This study was carried out at Dow University of health sciences from 1<sup>st</sup> April 2015 to 1<sup>st</sup> July 2015.

**Materials and Methods:** This study was conducted on 75 1<sup>st</sup> year BDS students, 25 house officers & 100 postgraduate trainees of Dow University of Health Sciences. A questionnaire based on a likert scale was distributed among 200 participants. The response rate was 100%. 5 questions were asked with five options. The main focus was to know whether Oral Biology being the basic foundation of dentistry is adequate enough to be taught for one year only. Data was analyzed on SPSS version 22.

**Results:** 65% strongly agreed and 34% agreed that Oral Biology is relevant subject for general dentistry. Whereas 47.5% disagree and 9% strongly disagree that Oral Biology is one of the pillars in dentistry. 68.5% strongly agree and 25% agree that Oral Biology is a building block in medical and dental sciences. 24% agree, strongly agree 12% and remaining 59% were unaware with the fact about the knowledge of oral biology is applicable to clear the aptitude test. Majority of the students agreed that the knowledge of the oral biology is essential for their clinic practice in future (Strongly agree-44% Agree-48.5%),

**Conclusion:** Oral biology is the relevant subject to the general dentistry.

**Key Words:** Oral Biology, relevance, dental students, subject knowledge

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## INTRODUCTION

Dental sciences play an essential role in education of dentistry.<sup>1</sup> It includes attaining ethical knowledge, exposing clinical knowledge and different researches on which diagnosis and patient's treatment are based<sup>2</sup>. It is the matter of concern that the dental community and the system of basic dental sciences education is not accentuated, in particular dental sciences is always absolved not getting an access. Formerly dental education has evidenced that the students give preference to the clinical dentistry and not to the basic sciences as their profession which is the matter of concern.<sup>3</sup>

According to American Association of Oral Biologists, Oral Biology is defined as a discipline that deals with the understanding of the development structure and

function of oral tissues in health and diseased conditions<sup>4</sup>. It is a basic dental science subject with the vast divergent in the scientific era including the development of molecular biology and genetics, microbiology and immunology, biochemistry, biophysics, craniofacial biology and development, pharmacology and physiology.<sup>5</sup> With the new advancement in dentistry, the addition of forensic odontology, dentists are getting awareness regarding forensic odontology and it will be the major part of dentistry in future. Because of the solitary coalescence of tissue types, functions of the mouth and craniofacial complex it has the connection with every field of dentistry, clinical as well as basic dental sciences<sup>6</sup>.

The importance of oral biology has been overlooked for a long period of time in the dental curriculum. With the recent advancement in the molecular and genetic levels it has now become impossible to deny that oral biology is the vital part of all dental subjects in any manner<sup>7</sup>. For the good clinical practice it is very important to know the development, anatomy, morphology of the

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tooth. In order to justify their profession, clinicians should treat patients to the best of their knowledge that can only be achieved by improving the basic knowledge & studying the subject in depth.<sup>8</sup>

The aim to conduct this study was to investigate the perception of relevance of Oral Biology amongst 1<sup>st</sup> year BDS students, house officers and post graduate trainee at Dow University of health sciences. Moreover, to know that whether Oral Biology subject is relevant for the general dentistry or serving as a bridge in between the clinical & basic sciences and helping post graduate students.

## MATERIALS AND METHODS

It is the cross sectional based study which was conducted on 1<sup>st</sup> year BDS students, house officers & post graduate trainees of Dow University of health sciences. A total of 200 questionnaires were distributed among the participants in which 75 forms were filled voluntarily by 1<sup>st</sup> year BDS students 25 by interns and 100 by the post graduates and collected by hand. Duration of the study was four months starting from 1<sup>st</sup> April 2015 to 1<sup>st</sup> July 2015

A short questionnaire based on Likerts scale was formulated. The questionnaire was close ended. It comprised of five questions. In order to survey the viewpoint of the respondents five options were given to answer each query from strongly agree/agree to strongly disagree/disagree to don't know. 1<sup>st</sup> question was about the relevance of Oral biology to the general dentistry, the second was about the opinion of Oral biology subject as bridging to fill the gap between clinical & basic sciences. Third question was about the importance of oral biology as the foundation course. The fourth question was on the perception of Oral

biology as a future clinical professional training. In the last question they were asked about the role of Oral biology in the entrance test & post grad level.

Data was analyzed using SPSS 22 and chi-square goodness of fit test was applied.

## RESULTS

It can be observed from the Table-1 that the most of subjects agreed (SA-65% ,A-34%) with the fact that Oral Biology is relevant subject for general dentistry, only 1% were not in favor about the connection between Oral Biology and general dentistry (p-value<0.05%). Regarding time period of teaching Oral Biology, varied feedback was seen with more than half of the students disagree (DA-47.5%, SD-9%), believing that oral biology should acquire strong position in dentistry and for more than one year of BDS.

For further evaluation the separate frequency Table 2 is given so that the distribution could be seen individually. The importance of Oral Biology in building the base between the medical and dental sciences dominantly it is evident in Table 1 (SA-68.5% ,A-25%) with negligible people disagree(DA-2.5%,SD-2%). Majority of the students agreed to the fact that knowledge of the Oral Biology is essential for their clinical practice in future (SA-44%, A-48.5%), insignificant amount of students (SD-2.5%) 1% were unaware of it .Last question was addressed about the Oral biology course knowledge to determine whether it is helpful for clearing basic aptitude post graduate test (MDS/ MSC.DS/FCPS PART 1/M.PHIL), the data shows that the a total of 36% agreed (A-24%, SA-12%) and 59% were unaware of it.

**Table No.1: Number & percentage of respondent showing perception and relevance amongst undergraduates and post graduates of DUHS**

| Question   | A   | SA    | DA    | SD | DN    | P -value |
|--|-----|-------|-------|----|-------|----------|
| Q1.Do you consider oral biology relevant for general dentistry?  | 34% | 65%   | 1%    | 0% | 0%    | <0.05%   |
| Q2- Do you think Oral biology is enough teaching at 1st year BDS ?   | 29% | 11.5% | 47.5% | 9% | 3%    | <0.05%   |
| Q3- Do you think Oral biology is important subject that helps in building the base for medical & dental sciences?                        | 25% | 68.5% | 2.5%  | 2% | 2%    | <0.05%   |
| Q4- Do you consider Oral biology relevant for your future clinical training?   | 48% | 44%   | 2.5%  | 4% | 1%    | <0.05%   |
| Q5- Do you think Oral biology course knowledge was helpful for clearing basic aptitude post-graduatetest (MDS/MSC.DS/FCPS PART 1/M.PHIL) | 24% | 12.5% | 4%    | 0% | 59.5% | <0.05%   |

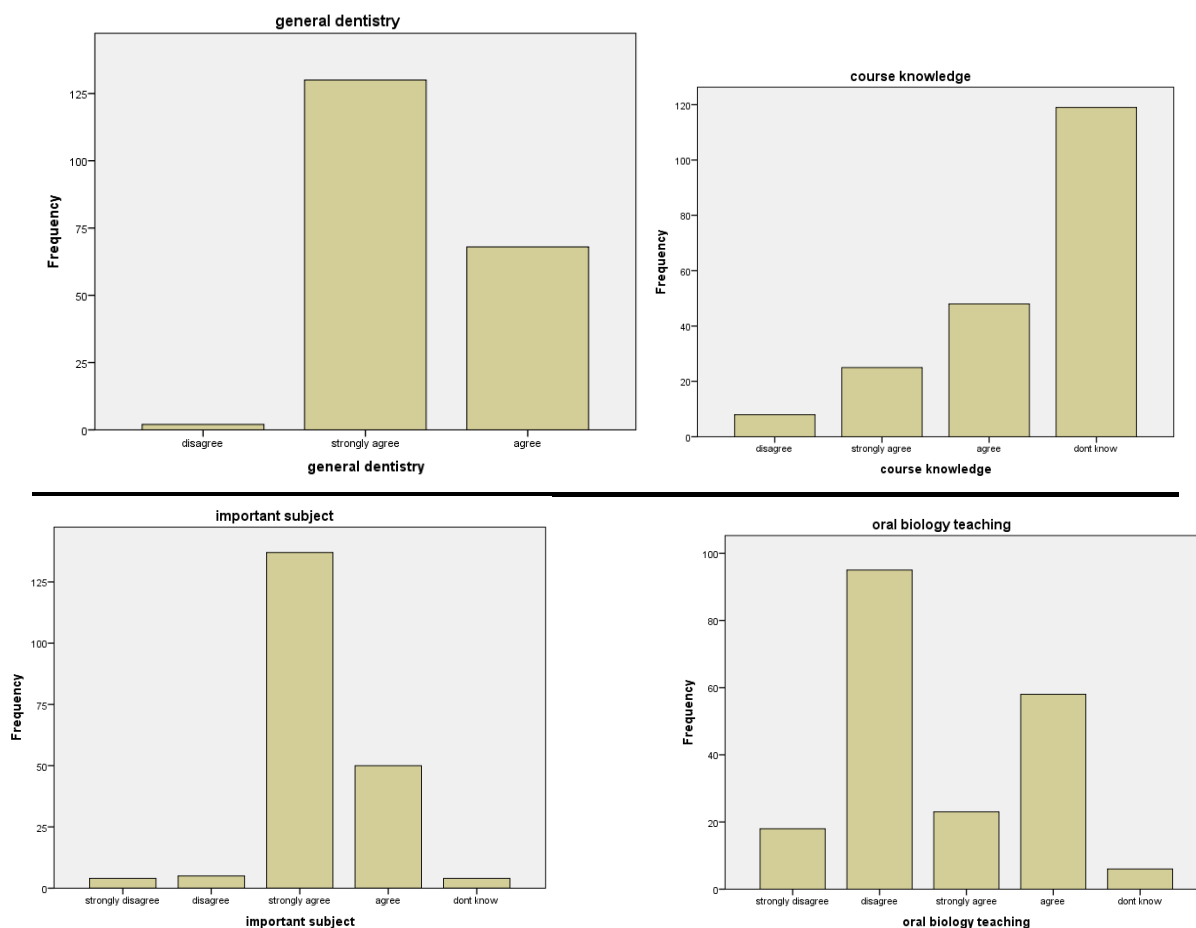
A-agreed which is the neutral , SA- strongly agreed, DA- Disagree, SD- strongly disagree, DN- don't know

Chi square testing represents p value of less than 0.05% which shows the result is significant ( no opinion answers excluded)

**Table No.2: Evaluation of frequency**

|             | general dentistry    | oral biology teaching | important subject    | clinical training    | course knowledge     |
|-------------|----------------------|-----------------------|----------------------|----------------------|----------------------|
| Chi-Square  | 122.920 <sup>a</sup> | 131.950 <sup>b</sup>  | 333.150 <sup>b</sup> | 231.150 <sup>b</sup> | 143.080 <sup>c</sup> |
| Df          | 2                    | 4                     | 4                    | 4                    | 3                    |
| Asymp. Sig. | .000                 | .000                  | .000                 | .000                 | .000                 |

- a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 66.7  
 b. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 40.0.  
 c. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 50.0



## DISCUSSION

The clinical expertise in dentistry is dependent on the firm ground provided by the knowledge of basic biological concepts.<sup>9</sup> Among the basic subjects taught in dental curriculum the subject of utmost importance is Oral Biology as it ligands the basic medical subjects with the other dental basic and clinical subjects<sup>10</sup>. The aim of the present study was to evaluate the students' perspective at different level of the education starting from undergrads along with house officers and post graduates. The results obtained demonstrate convincingly that all groups perceived Oral Biology relevant to dentistry, including dental education and clinical practice. The results interestingly revealed that the significance of the Oral Biology course increases with the advancement of the education. This is in accordance with the study conducted by Schevan BA<sup>11</sup>. This apparent change is obvious when they enter some post graduate program and shift towards deeper learning and understanding of the subject.

Oral Biology is taught in Pakistan in second year or first year, when students foremost adopt a superficial or

strategic learning approach just to pass the examinations. The need of developing the research/problem-based learning (PBL) to produce deep learning rather than 'spoon feeding' and assessing the students still remains the greatest challenge in the field of dental education<sup>12</sup>.

Relevance of oral biology to dentistry could further be increased if it is not taught independently but as an integrated subject with clinical sciences, which has been proposed previously by Gotjamanos.<sup>13</sup> Clinical subjects teach the students to recognize and apply narrative therapeutics.<sup>14</sup>

In a study by Dr Imran Farooq<sup>15</sup> found out that in this era students have begun to emphasize on the basics with the clinical subjects. The recent research advancements in the medical and dental fields are now treated as biological sciences, as they share the integrated scope regarding etiology diagnosis knowledge treatment of many diseases<sup>16</sup>. In short, when treating patients, relationship with the structures and tissues involved must be considered, the importance of Oral Biology in dentistry can be well accepted.<sup>17</sup>

It has been suggested that oral biology must be incorporated in vertical integration rather than horizontal to improve the clinical relevance of the subject<sup>18,19</sup>. The same was shown in our research when 47.5% of total students strongly disagreed that teaching one year teaching of oral biology is sufficient. Moreover, 44% agreed and 48% strongly found the course is relevant for their clinical training.

Oral Biology like dentistry should emphasize on the Forensic Odontology also<sup>20</sup>. Regarding the query made to the under graduate, house officers and post graduate that whether Oral biology helped them in clearing their aptitude test, among them undergrads did not know whereas post graduates and house officer agreed that the subject helped them in clearing the milestone but lacking is still there.

## CONCLUSION

- Dental students, house officers and post graduate students all agreed with the fact that Oral Biology being the relevant subject. Though the more positive response was registered by the seniors as their progression in dental education and training matures the vision of the students.
- Furthermore there is a need for the vertical integration of Oral biology and clinical dentistry combined with a problem-based approach to learning gives the students opportunities to use and adapt their knowledge to common odontological problems and situations.
- It is therefore necessary to conduct further studies in particular, to compare different Oral Biology teaching programs established at various dental institutions and relate those to students' perceptions and experiences to get the more accurate results and to develop an interest in the subject which has been lacking since decades.

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

## REFERENCES

1. Al-Jandan BA, Farooq I, Khan SQ. Students' perspectives on the relevance of internet-based educational videos in dental education. *J Taibah Univ Med Sci* 2015;10(3):288–292
2. DePaola ID, Howell H, Baker G. Research and the dental student. *Eur J Dent Educ* 2002;6(3):45–51
3. Kieser J, Herbison P, Waddell N, Kardos T, Innes P. Learning in oral biology: a comparison between deep and surface approaches. *NZ Dent J* 2006;102: 64–68.
4. The American Association of Oral Biologists. Curricular guidelines for oral biology. *J Dent Educ* 1984;48:269–273.
5. Gotjamanos T. Oral biology and the early introduction of clinical dentistry in the dental curriculum. *J Dent Educ* 1986;50:208–212.
6. Baghdady T M, Carnahan H, Lam E W N, Woods NN. Integration of Basic Sciences and Clinical Sciences in Oral Radiology Education for Dental Students. *J Dental Educ* 2013;77(6):757–763.
7. Kieser J, Herbison P. Student learning and the teaching-research nexus in oral biology. *Eur J Dent Educ* 2001;5:60–62.
8. Rossomando EF, Moura M. The role of science and technology in shaping the dental curriculum. *J Dent Educ* 2008;72:19–25.
9. Suddick RP. The current status and impact of oral biology in dental education. *J Dent Educ* 1976;40: 662–671
10. Kieser J, Kardos T, Higgins A, Herbison P. Context rich problems in oral biology teaching. *Eur J Dent Educ* 2002;6:114–120
11. Scheven BAA. Perceived relevance of oral biology by dental students. *Eur J Dent Educ* 2012;16:64–72.
12. <sup>1</sup> Last KS, Appleton J, Stevenson H. Basic science knowledge of dental students on conventional and problem-based learning (PBL) courses at Liverpool. *Eur J Dent Educ* 2001;5:148–154.
13. Gotjamanos T. Integration of basic biological sciences and clinical dentistry in the dental curriculum. A clinically orientated approach to teaching oral and dental anatomy *Aust Dent J* 1990;35(3):290–3
14. Baum BJ. Can biomedical science be made relevant in dental education? A North American perspective. *Eur J Dent Educ* 2003;7:49–55.
15. Farooq I and S. Ali. Comparison of the perceived relevance of oral biology reported by students and interns of a Pakistani dental college *Eur J Dent Educ* 2014; 18(Suppl. 4): 203–206
16. Entwistle NJ. Approaches to learning and perceptions of the learning environment. *Higher Educ* 1991;22:201–204.
17. Chavez V A. The current role of Oral Biology in Dentistry. *Jorales* 2015;58.
18. Fry H, Ketteridge S, Marshall S. Understanding student learning. A handbook for teaching and learning in higher education: enhancing academic practice. London: Kogan Page;1999.p.21–40,82.
19. Kieser J, Herbison P, Waddell N, Kardos T, Innes P. Learning in oral biology: a comparison between deep and surface approaches. *NZ Dent J* 2006;102: 64–68.
20. Yip HK, Barnes I. Learning in dental education. *Eur J Dent Educ* 1997;1:54–60.