# DMFT INDEX AMONG DENTAL UNDERGRADUATES OF LAHORE MEDICAL AND DENTAL COLLEGE IN DIFFERENT PROFESSIONAL YEARS OF DENTISTRY

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**ABSTRACT**

*This cross-sectional study was carried out at Lahore Medical and Dental College to evaluate dental caries status amongst the dental undergraduates. The decayed ,missing and filled teeth were evaluated according to the DMFT scoring scale .310 dental students from first year to final year with age ranging from 18-24 years were included in the study . The overall mean DMFT score was 1.38±0.54 with decay (D) component of 0.54±0.62, missing (M) component of 0.01±0.10 and filled component of 0.83±0.68. There was no significant difference in mean DMFT score among the different professional years (p=0.192). However the decay component of the mean DMFT was significantly (p=0.001) decreased and filled component significantly increased (p=0.0001), as the student passed through different professional years, reflecting positive influence of their dental education on their oral health status.*

**Key Words:** *Dental caries status, DMFT, Dental students.*

## INTRODUCTION

Dental health is a highly individualized concept the perception of which is very much affected by an individual's culture and socioeconomic status. The attitude of people towards their own teeth, and attitudes of dentists who provide dental care, play an important role in determining the oral health condition of the population .By choosing a dental curriculum at undergraduate level the dental student become a role model for oral health. Dental health professionals have an important role to play in the improvement of public health education level. Today's undergraduate students are providers of dental services in future and will be responsible for public oral health education.[1]

To evaluate the dental caries status among students DMFT index is used. This is the universally employed index for measuring dental caries status. The DMFT index measures the total lifetime caries status. It is used to denote the decayed, missing and filled teeth. Therefore DMFT index quantifies dental caries status in terms of the number of decayed teeth with untreated caries lesion i.e. (D) Component of DMFT and the number of teeth, which have been lost due to caries i.e. (M) component of DMFT as well as the number of filled teeth present i.e. (F) component of DMFT.[2] The DMFT values will be interpreted according to DMF scoring scale According to this scale a DMFT value between 0-4 is considered low caries status, the value in the range of 5-9 is moderate caries status and value greater than 9 is high caries status.[3]

Dental students are generally motivated to maintain good oral health .Researchers have found that the oral health attitudes and behavior of students to be different in preclinical and clinical years.[1] Therefore evaluation of their caries status will provide an opportunity to acknowledge their oral health status. A study of their own oral health status during their training

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could be of a great value, since they are the ones who will apply their knowledge to patients and improve the treatment process during their own practices. [4] Therefore this study was done to evaluate the dental caries status, among dental students of Lahore Medical and Dental College (LMDC).

## METHODOLOGY

The study population consisted of undergraduate students of dentistry with age range of 17-24 years. Many students were of higher age compared to their level of dental education as some students take more than one attempt to pass their undergraduate exams. The students consent was taken before the commencement of the study. Students were examined in operative department of LMDC.The examination was done in unit light. The instrument was calibrated for intra and interexamination reliability by a senior faculty member. Each student being examined was seated in the upright position. The examination was done using the CPITN probe and the mouth mirror having standard size head (size 4). For every individual separate set of mouth mirror and CPITN probe was used. To evaluate the DT component of the DMFT, only those teeth were marked as carious that exhibited a catch on probing i.e. The DT component of DMFT. Similarly the FT and MT components were recorded on the proforma. Data was entered and analyzed in statistical software (SPSS-10). Stratification for professional level was done to observe the effect on DMFT. $P<0.05$ was considered level of significance.

## RESULTS

A total of 310 dental undergraduate students were included in this study. Distribution of students in different professional years is presented in Table 1. Similarly gender wise distribution is presented in Table 2.

DMFT score with respect to professional years (1st year to final year) was presented in Table 3. Out of all the dental students from different professional years DMFT score 1 was present in 129 students. DMFT score 2 was present in 66 students. Similarly DMFT score 3 was present in 5 dental students. The overall mean DMFT score among all the years were 1.38±0.54 with decay (D) component of 0.54±0.62, missing (M) component of 0.01±0.10 and filled component(F) of 0.83±0.68 as shown in Table 4. There was no significant difference in mean DMFT score among the different academic levels (p=0.192). However the decay component of the mean DMFT was significantly (p=0.001) decreased and filled component significantly increased (p=0.0001) in different academic years.

## DISCUSSION

The dental undergraduate training program in Pakistan is divided in to 4 years of education and one

TABLE 1: DISTRIBUTION OF DENTAL STUDENTS IN DIFFERENT PROFESSIONAL LEVELS

| Student professional level | No. of students | Percentage |
|---|---|---|
| 1st Years (Old) | 61 | 19.7% |
| 2nd Years | 60 | 19.4% |
| 3rd Years | 69 | 22.3% |
| 4th Years | 64 | 20.6% |
| 1st Years (New) | 56 | 18.1% |

TABLE 2: DISTRIBUTION OF DENTAL STUDENTS WITH REPECT TO GENDER

| Professional years | Male n=114 | Female n=196 | Total |
|---|---|---|---|
| 1st Years (Old) | 17 | 44 | 61 |
| 2nd Years | 25 | 35 | 60 |
| 3rd Years | 35 | 34 | 69 |
| 4th Years | 18 | 46 | 64 |
| 1st Years (New) | 19 | 37 | 56 |

TABLE 3: DMFT SCORE WITH RESPECT TO PROFESSIONAL LEVELS n=200

| Professional Level | DMFT Score | | | Total |
|---|---|---|---|---|
| | 1 | 2 | 3 | |
| 1st Year | 21(53.8%) | 18(46.2%) | 0(0%) | 39 |
| 2nd Year | 20(52.6%) | 16(42.1%) | 2(5.3%) | 38 |
| 3rd Year | 34(73.9%) | 11(23.9%) | 1(2.2%) | 46 |
| 4th Year | 27(71.1%) | 10(26.3%) | 1(2.6%) | 38 |
| 1st Year (New) | 27(69.2%) | 11(28.2%) | 1(2.6%) | 39 |
| Total | 129(64.5%) | 66(33%) | 5(2.5%) | 200 |

DMFT scoring scale
DMFT Score 1 to 4 =Low Caries status
DMFT Score 5 to 9 =Medium Caries Status
(Not observed in this study)
DMFT Score > 9 = High Caries Status
(Not observed in this study)

TABLE 4: MEAN SCORE OF DMFT AMONG DENTAL UNDERGRADUATES N=200

| Professional year | Mean Decay | Mean Missing | Mean Filled | Mean DMFT |
|---|---|---|---|---|
| 1st Years (Old) | 0.90±0.64 | | 0.56±0.68 | 1.46±0.51 |
| 1st Years (New) | 0.82±0.64 | | 0.51±0.60 | 1.33±0.53 |
| 2nd Years | 0.47±0.60 | 0.03 ± 0.16 | 1.03±0.63 | 1.53±0.60 |
| 3rd Years | 0.30±0.46 | | 0.98±0.61 | 1.28±0.50 |
| 4th Years | 0.24±0.43 | 0.03±0.16 | 1.05±0.69 | 1.32±0.53 |
| Overall All | 0.54±0.62 | 0.01±0.10 | 0.83±0.68 | 1.38±0.54 |
| P-Values | 0.001 | 0.516 | 0.0001 | 0.192 |

year of house job. The course is divided in to two groups. Pre-clinical years and clinical year's . The first and second academic years are essentially course studies in basic medical and dental sciences. 3rd academic year emphasizes basic dental sciences and a proportion of clinical dentistry. The final year is fully devoted to clinical dentistry.

By choosing a dental curriculum at the undergraduate level, dental students become a role model for better dental health status. Today's student will be the future dentist and will be playing an important role by motivating the patients towards better dental health status.[1] It is interesting to know their caries status. In the present study there was no significant difference in mean DMFT score among the different academic levels (p=0.192). However the decay component of the mean DMFT was significantly (p=0.001) decreased and filled component significantly increased (p=0.0001) in different academic years reflecting positive influence of their dental education in their oral health status.

While interpreting the results in dental students of this study it is important to mention that not all the fillings done on students were due to caries. The FT component in this study included all those restorations that have been done in posterior teeth due to deep fissures and grooves as a preventive measure against dental caries. Similar results have been obtained in another study that was done to evaluate the dental caries status amongst male undergraduates of dentistry in King Saud University.[5] Caries prevalence among the study population was 95.3%, and the mean DMFT score was 7.97 with decay (D) component of 3.59 missing (M) component of 0.67 and filled component of 3.71. There was no significant difference in mean DMFT scores of students from various academic levels similar to the present study but the ratio of the decay component of the mean DMFT score was significantly low among senior dental students. In contrast, the ratio of the filled component of the mean DMFT score significantly increased throughout the different professional years. Missing component of the mean DMFT score was very small for all academic levels and its ratio did not change significantly throughout different professional years.[5] This trend is consistent with another study that was done to evaluate DMFT scores amongst Tunisian dental students.[6] Of the 155 Tunisian dental students, with age ranging from 21 to 25 years caries status was calculated according to DMFT score. Regarding dental caries, 43.0% of students were affected. The D, M and F scores among the 140 students were: 147 decayed (mean 1.05), 21 missing (mean 0.15) and 157 filled (mean 1.12) teeth , giving 325 affected teeth overall and mean DMFT of 2.32. In general, the dental students had achieved a better dental health in terms of the DMFT score, where the D component had decreased and the F component had clearly increased.[6] It is interesting to observe the wide variation in total DMFT score (0-14) among the dental students in Pakistan and throughout the world. It was long argued that certain races (such as Africans and Asians) enjoy greater caries-resistance (compared to Europeans and Americans). However, today it is believed that an environment with its typical culture, socioeconomic status, life style and dietary pattern can have a greater impact on caries resistance or development than the so-called inherent racial attributes.[7]

Thus it is concluded that with the growing knowledge and professional habits students get enough motivation to have their own teeth treated. The same increase of motivation has been observed in dental students of Helsinki University.[8] Similarly Faye D carried out epidemiologic study of dental caries among

students on the campus of the University of Dakar. The DMFT scores were highly influenced by the higher filled component.[9] All other similar researches conducted in universities of different areas of this world proved the same statement, "constant exercise in the field of profession reflects in students 'oral hygiene habits".[10]

## CONCLUSION

The dental caries status was low among the dental undergraduates. There was no significant difference in mean DMFT score among different professional years. However the decay component of the mean DMFT was significantly decreased and filled component significantly increased in different professional years. In fact dental students completed their undergraduate training period with higher number of treated teeth. This has been attributed to their motivation and good perception of their dental health.

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