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Evaluation of Dental Health of Dental Students at Kaunas University of Medicine

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SUMMARY

The aim of the study has been to assess a possible change in the dental health condition, and ability to evaluate the need of prosthetic treatment together with the increase of dental knowledge in students of odontology. The population studied consisted of 292 second- to fifth- year dental students attending Kaunas University of Medicine, Lithuania. The clinical examination was performed using DMFT-index (number of decayed – D -, missing – M - and filled – F – teeth) and in advance defined criteria for the need of prosthetic treatment. In addition, students were interviewed regarding their home-based oral health care and the need of prosthetic treatment. The results have shown that the majority of participants showed high motivation in maintaining their oral health. DMFT score was increasing; however the DT component was decreasing together with the year of studies. Fifth- and fourth- year students presented the best evaluation of the need for prosthetic treatment due to the dental education alongside with clinical experience. We conclude that students graduating from Kaunas University of Medicine, Faculty of Odontology are motivated highly enough to proceed with successful clinical practice in the future.

Key words: students, DMFT, oral hygiene, prosthetic treatment.

INTRODUCTION

Students at Kaunas University of Medicine, Faculty of Odontology start studying dental subjects already in the second year of studies. During the five-year period they accumulate theoretical knowledge and practical skills in various fields of dentistry and general medicine. While studying students have many opportunities not only to check their dental condition but also to get necessary and proper treatment.

Information acquired during those years in university develops future dentists. Their professional skills and knowledge have an essential impact for the success of their forthcoming professional practice. Gained knowledge and acquired skills are evaluated during exams at university. We assume that future dentists' attitude towards their oral and dental health condition is the best means to reflect if students realise the significance of these factors for general health.

Therefore we suppose that constant exercise in the field of profession should reflect in their own oral hygiene habits, dental condition and capability to perform an adequate self-assessment of their dental condition. Similar studies have been conducted in quite many other universities in Europe [1 – 5].

The aim of this study was, therefore, to prove this proposition, as well as to have a glance, whether graduating students are highly motivated specialists. Seeking to prove that, we decided to survey what the habits of individual oral hygiene, prevalence of dental caries among different year students are and how they can assess the need of prosthetic treatment for themselves.

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MATERIAL AND METHODS

The research study included second-, third-, fourth- and fifth- year students studying at Kaunas University of Medicine, Faculty of Odontology, Lithuania. The study included 82 second-year students (91.1%), 63 third-year students (92.6%), 69 students from the fourth-year (100%) and 65 fifth-year students (100%). The total number of subjects participating in the study was 292, which means that 95.55% of all second- to fifth-year students have been examined.

Methods of study: questioning (respondents were asked to fill out a questionnaire) and clinical examination.

Questionnaire involved:

1. Asking about students' oral hygiene habits [2,3,6] – how often they brush their teeth, what additional means of oral hygiene they use;
2. Asking about the presence of any prostheses (inlays, onlays, crowns, bridges, etc.);
3. Asking dental students to express their opinion about the need for prosthetic treatment.

Clinical examination was performed at the Prosthetic Clinic, Faculty of Odontology, under standardised conditions; good equipment and illumination were provided.

Dental examination was carried out using dental mirror and probe. The mean DMFT- (number of decayed – D -, missing – M - and filled – F – teeth) index according to the criteria, described by WHO [8], was calculated for the study group by adding individual DMFT scores and dividing by the amount of people examined.

The need for prosthetic treatment for single teeth was evaluated using index of the occlusal surface lesion. This index has been proposed by V. J. Milikevic in 1984 [9]. The whole occlusal surface is considered as 1. If 0.55-0.6 of the tooth surface is affected, it is registered as the need for an intracoronal restoration (inlay or onlay), if the lesion affects 0.6 or more of the surface it is an indication for a crown. If the defect comprises 0.55-0.6 of the surface but it has already been restored by an adequate filling, no restoration needed is registered. However, if the tooth is not restored or the restoration is not satisfactory (secondary caries present, occlusal surface not properly formed), the need for prosthetic treatment is registered.

If the dental arch defects are present, indication for

prosthetic treatment is registered. The definite treatment is selected according to the clinical situation (extent of defect, condition of abutment teeth). If the defect is limited, treatment with fixed dentures (bridge restorations) is considered as primary indication [10,11,12]; on the other hand, the presence of severe defects was usually solved by removable dentures. In both cases implantation would be considered, although accomplishment possibilities for it are not evaluated in this study.

Statistical analyse was performed using STATISTICA 5.0 program packet. As 95.55% of examined population (second – fifth-year students of Faculty of Odontology, Kaunas University of Medicine) participated in this study, all the data presented are statistically significant [13].

RESULTS

Habits of oral self-care. Habits of oral self-care are characterised by graphs 1 and 2. These graphs show that the highest amount of students, who brush their teeth once per day are in the third year of studies - 13%, the lowest – in the fourth – 7%, respectively. The majority of students that brush their teeth twice a day are in the fourth year (87%), the lowest – in the third year of studies (79%), respectively.

The daily use of a dental floss increased together with the year of studies: the lowest amount of dental floss-users is in the second year of studies (59%), and the highest – in the fifth (82%). Mouth rinses are used by students less often: the lowest amount of mouth rinse-users is among third year students (27%), and the highest – among fifth year students (35%), respectively. Interdental tooth brushes and tooth picks are not very popular with dental students, they are used regularly just by few respondents.

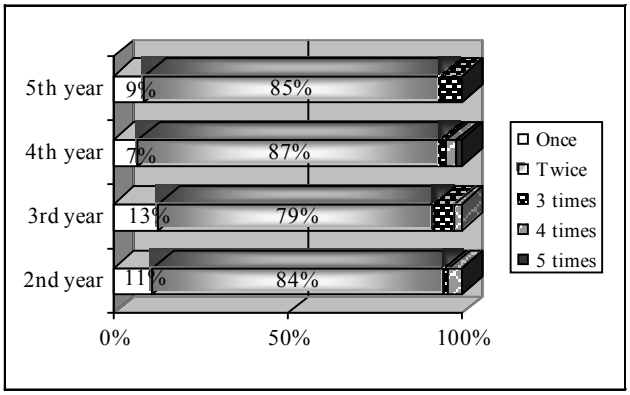
Prevalence of dental caries. The DMFT scores are shifting together with age, i.e. the lowest DMFT score is registered among the second year-students (9.04), and the highest – among fifth-year students (11.03). However the most important indicator describing oral self-care level is DMFT composition (Graph 3). The number of decayed teeth is decreasing together with the increase of dental knowledge and the year of studies: the lowest amount of teeth with untreated caries lesions has been registered among the fifth year students (4%), the highest – among second year students (14%), respectively. The lesion component was often represented in first and second molars.

Prosthetic treatment. With reference to the data of clinical examination, the majority of prosthesis is owned by fourth-year students: the mean number of prostheses per person is 0.48 (Graph 4). It means that almost every second fourth-year student owns a tooth, which has undergone a prosthetic treatment. Whereas the lowest amount of prosthesis was detected in the second-year students: the mean number of prostheses per person is 0.17. In majority of cases students' teeth were restored by crowns, there were detected less intracoronal restorations and only few bridges were found.

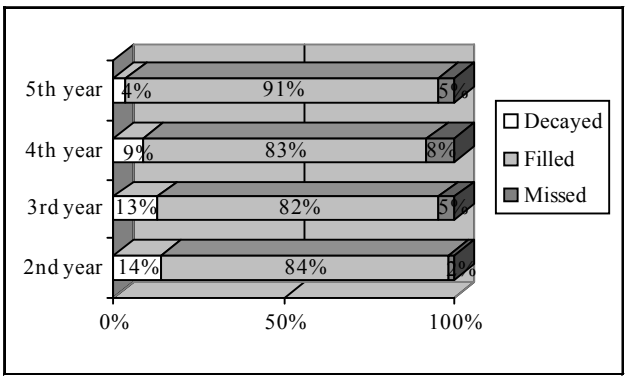
According to the clinical examination the highest amount of restorations required was detected among third-year students: the mean number of prostheses required per person is 1.14 (Graph 4). The lowest mean number of prostheses required per person was detected among fifth-year students: 0.57 prostheses required per person.

In the majority of cases students need crowns and intracoronal restorations and only few bridges (Graph 5).

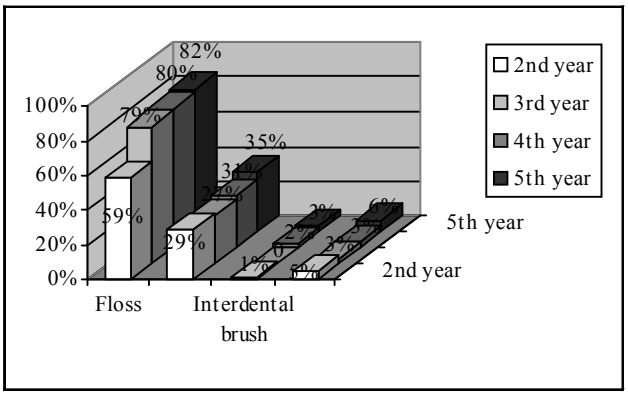
In the questionnaire students were asked to indicate teeth that, in their opinion, need prosthetic treatment. Later on while performing examination we evaluated the need for prosthetic treatment according to the above mentioned criteria. The most exact in evaluating the need for prosthetic treatment were fifth-year students, i.e. 54% of respondents were right in indicating the restorations required. Third-year students were the least exact in self-evaluation: 31% of re-



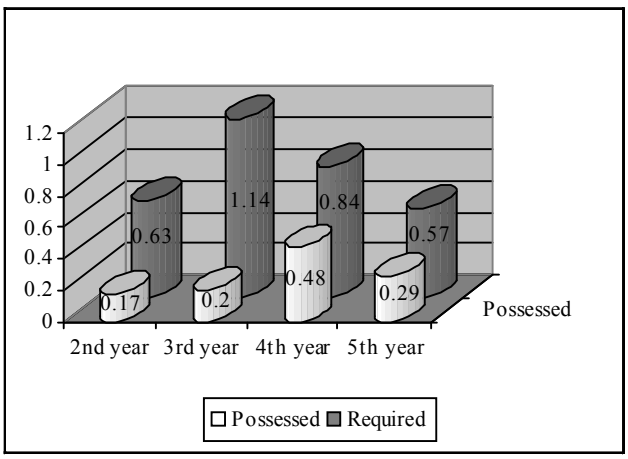
Graph 1. *Oral hygiene habits: tooth brushing.*



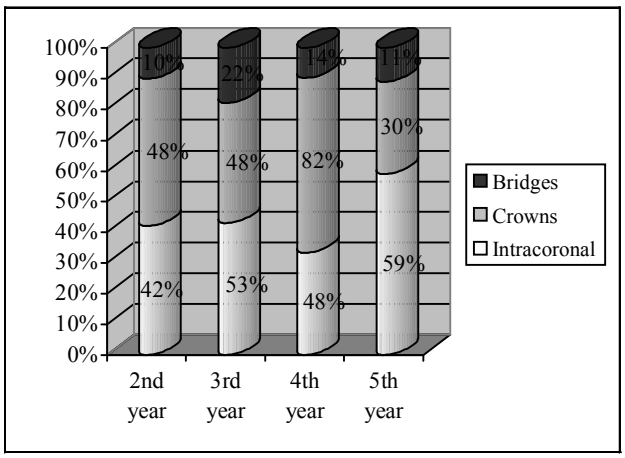
Graph 3. *DMFT composition.*



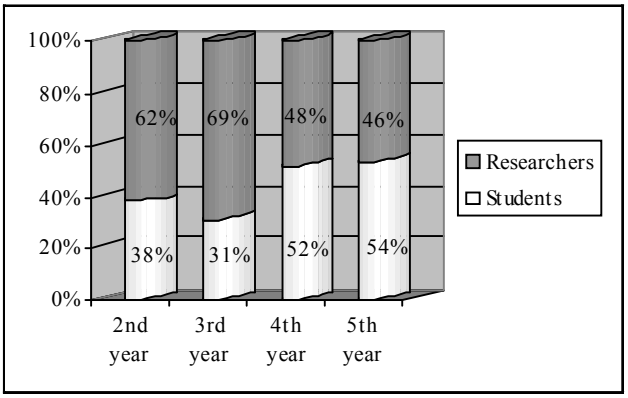
Graph 2. *Implements of oral hygiene.*



Graph 4. *Possessed and needed prostheses.*



Graph 5. *Need for prosthetic treatment: restorations needed.*



Graph 6. *Need for prosthetic treatment: difference between two opinions.*

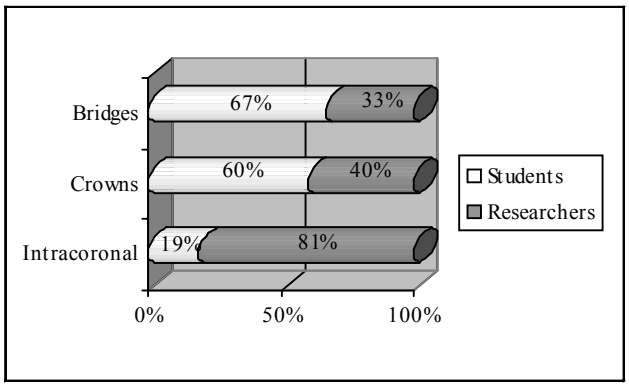
spondents were correct in self-evaluation (Graph 6).

An interesting point is the difference between the students' and the investigators' opinions concerning intracoronal restorations: only in 19% of cases students were right in self-evaluating the need for an inlay or onlay (Graph 7). Students in 60% of cases were right in indicating the need for a crown and in 67% of cases – for a bridge restoration. It is worth mentioning that the difference among junior and senior students was quite significant when evaluating the need for intracoronal restorations: only 5% of second-year students (1 respondent), no one in the third year and even 38% and 41% in the fourth and fifth year respectively could make and adequate evaluation.

DISSCUSSION

After revising the data of oral self-care it becomes obvious that students already in the fourth-year realise the importance of oral self-care – the majority of fourth- and fifth-year students brush their teeth twice per day. We can also assume that already in the third year of studies students have enough dental knowledge and motivation, as they use the dental floss more often than the second-year students. This can be also related to the course of preventive dentistry which students undergo in the second year of studies. All other similar researches conducted in different universities prove the same statement: constant exercise in the field of profession reflects in students' oral hygiene habits [1-3, 6].

The impact of studying can easily be seen in the DMFT scores, specifically in the composition of this index (increase of FT component). Second-year students have over three



Graph 7. *Need for prosthetic treatment: difference between two opinions.*

times more teeth with untreated caries lesions when comparing to fifth-year students. Starting with the second and finishing with the fifth year of studies the prevalence of untreated dental caries gradually decreases. The same results have been obtained in a similar research conducted at Paris VII university where the increase in DMFT score of dental students' teeth was also mainly due to a high number of fillings [3]. This fact enables us to state that with the growing knowledge and professional habits students get enough motivation to have their own teeth treated. The same increase of motivation to have their teeth treated has been observed in dental students of Helsinki University [4].

When comparing students' and our opinions about the need for prosthetic treatment it is obvious that fifth- and fourth-year students are the most exact in proper self-assessment of their dental condition which undoubtedly proves that their knowledge in the field of prosthetic dentistry is much higher compared with their younger colleagues. It can be stated that 54% of fifth year students who have made the right evaluation is a far too small result. Possible explanation follows: as it was mentioned before a clear-cut distinction was observed while comparing our opinion concerning intracoronal restorations with students' opinion. This might have happened because even when a tooth defect requires this kind of restoration, practically it is very often restored by a composite filling. Intracoronal restorations are quite new and expensive in Lithuania – as a result of this we can see that even dental students still prefer using composite fillings. This also shows the lack of acquired information about the use of these restorations – the students should be able to indicate the theoretical need for proper restoration.

It would be interesting and informative to proceed with this study in the upcoming years: to check current junior students in the end of their studies when they will have accumulated more professional knowledge and skills and in this way to see, if there is a clear impact of gained knowledge on concrete personalities.

CONCLUSIONS

Constant exercise and growing knowledge in the field of profession reflects growing capability to perform an adequate self-assessment of the dental state, oral hygiene habits and dental condition. As students are highly motivated to maintain their dental health and as dental education experiences appear to have had a clear influence on this behaviour, we conclude that students graduating from Kaunas University of Medicine, Faculty of Odontology, are motivated highly enough to proceed with successful clinical practice in the future.

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