

## STANDPOINT

by Prof. Dr. Mariana Iordanova Dimova-Gabrovska, MD PhD, DSc

External member of the Scientific jury based on an order of the Rector of the  
Medical University - Varna, No P-109-297/12.07.2021

Concerning dissertation work for obtaining an educational and scientific degree "Doctor" in the doctoral program "Pediatric Dentistry", professional field 7.2 Dental medicine, field of higher education 7. Health and sports

On topic: Prevalence of white spot lesions in patients with fixed orthodontic technique and their correlation with the level of plaque control and gingival inflammation

By author: Dr. Elena Todorova Dimova, PhD student in full-time training at the Department of Pediatric Dentistry, Faculty of Dental Medicine, Medical University "Prof. Dr. Paraskev Stoyanov" - Varna.

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The dissertation is written on 166 pages, of which: content - 2 pages, list of abbreviations - 1 page, introduction - 2 pages, literary review - 37 pages, summary of the literary review - 2 pages, aim, tasks and hypotheses - 1 page, material and methods - 16 pages, results and discussion - 60 pages, conclusion - 5 pages, deductions - 1 page, contributions - 1 page, bibliography - 23 pages, appendices - 12 pages. The work is illustrated with 23 tables and 69 figures. The literature reference includes 305 literary sources, of which 9 in Cyrillic and 296 in Latin letters.

The exposition is presented clearly and in a very good scientific style.

The considered problem is of increasing importance due to the growing number of dental-maxillary malformations requiring orthodontic treatment with a fixed technique.

The actuality of the developed topic is supported within the detailed and analytical literature review, which is sufficient in volume and thematically corresponds to the given tasks. The well-known methods for examination and treatment of white carious lesions, as well as the risk factors for their occurrence are presented in the current work.

The aim is formulated precisely and clearly. Through it, the doctoral student gives the main points of her research work, namely - to study the prevalence and severity of white carious

lesions in relation to the level of plaque control and gingival inflammation in patients with fixed orthodontic technique.

The doctoral student achieves the fulfillment of the aim through six main tasks, for the completion of which modern research and statistical methods were applied.

The material is sufficient to derive reliable and representative results.

The object of the study are 246 children who have undertaken treatment at the University Medical and Dental Center of Faculty of Dental medicine - Varna at the Medical University - Varna, the dental practice of Prof. Dr. R. Andreeva and patients treated by dental professionals, for a period of 2 years. The patients are divided into two groups. First group - 123 patients who undergo treatment with fixed orthodontic technique (braces). Second group - 123 patients who visited the dental offices on another occasion.

The used methodologies are adequately focused on each of the set tasks, as the results are subjected to a detailed statistical analysis and very well illustrated with tables and figures.

The scientific research proves the main factors that influence the development of white carious lesions during fixed orthodontic treatment. The present scientific work determines the orthodontic treatment with fixed technique, the duration of treatment, male gender, metal braces, poor oral hygiene and lack of cooperation on the part of the patient as risk factors for higher caries experience.

An algorithm for prevention and follow-up of patients undergoing treatment with fixed orthodontic technique, protocols for prevention of white carious lesions during treatment and motivational materials aimed at children and their parents have been developed.

The presented conclusion is logical and substantiates the concluding remarks from the dissertation.

The contributions of the research are summarized in three groups.

#### I. Original contributions for the country:

1. The dissertation provides for the first time in Bulgaria up-to-date data on the oral health of children undergoing orthodontic treatment with a fixed technique.
2. For the first time, a detailed analysis of the prevalence and severity of white carious lesions was performed with specially selected indices in patients undergoing treatment with fixed orthodontic technique.
3. For the first time in the risk profile of patients undergoing orthodontic treatment with a fixed technique, the behavioral factors regarding eating habits and oral hygiene were also studied.

## II. Practical contributions:

1. A risk profile has been drawn up for the development of white carious lesions in patients undergoing treatment with fixed orthodontic technique.
2. An algorithm for prevention and follow-up of patients undergoing orthodontic treatment with a fixed technique has been developed and proposed.
3. Protocols for prevention of white carious lesions have been developed and proposed, which are for children with low risk, for children with high risk and / or poor cooperation, as well as at the beginning of the development of white carious lesions.
4. Informative motivational materials have been developed for children conducting orthodontic treatment with a fixed technique, as well as for their parents regarding eating habits and maintaining effective oral hygiene.

## III. Confirmatory contributions:

1. It has been proven that there is connection between orthodontic treatment with a fixed technique and increased caries, gingival inflammation and the accumulation of dental plaque.
2. The duration of orthodontic treatment, metal braces and male gender have been shown to be negative in terms of oral health.
3. It has been proven that in patients with good cooperation better results are achieved in terms of the overall course of treatment, maintenance of good oral hygiene and prevention of caries and gingival inflammation.

The dissertation is carried out entirely by the doctoral student under the guidance of the supervisor and summarizes the results reliably and in depth, showing both in-depth theoretical and practical knowledge of the research and ability for independent research.

The abstract briefly presents the dissertation and meets the requirements for its preparation. The doctoral student popularizes her scientific works in 3 publications.

In conclusion, the dissertation "Prevalence of white spot lesions in patients with fixed orthodontic technique and their correlation with the level of plaque control and gingival inflammation" is a contemporary and original scientific work and meets all the criteria for awarding the educational and scientific degree "Doctor". On this basis, I give my positive assessment of the work and I will vote convincingly with "YES" for awarding an educational and scientific degree "Doctor" to Dr. Elena Todorova Dimova.

12.08.21

Sofia

  
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