

MINISTRY OF EDUCATION

**”TITU MAIORESCU” UNIVERSITY BUCHAREST
DOCTORAL SCHOOL
DENTAL MEDICINE**

**RESEARCHES REGARDING THE CLINICAL ASPECTS OF
DENTO-MAXILLARY ANOMALIES AND THE
INTERDISCIPLINARY THERAPUTIC APPROACH**

ABSTRACT OF ABILITATION THESIS

CANDIDATE:

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2024

The habilitation thesis entitled "*Researches regarding the clinical aspects of dento-maxillary anomalies and the interdisciplinary therapeutic approach*" is the result of personal professional, academic and scientific achievements after completing the doctoral studies. The preparation of the habilitation thesis was carried out according to the requirements and recommendations of the National Council for Attestation of University Titles, Diplomas and Certificates (CNADTCU) and the Methodology of the Doctoral School of the "Titu Maiorescu" University in Bucharest, being structured in three main parts:

Part 1 : Scientific, academic and professional achievements

Part 2 : Evolution and career development plans

Part 3 : Bibliographic references related to the information contained in the thesis

In the first part of the habilitation thesis is a brief presentation of the academic, professional and scientific activity since obtaining the title of Doctor in Dental Medicine in 2011, but also of the main stages of the medical activity, as well as aspects underlying the various concerns for research. The section dedicated to postdoctoral scientific research, it provides an overview of both the teaching and scientific career, as well as the professional one, and includes the most relevant articles of my scientific activity indexed in the Web of Science, being structured in three chapters.

The first chapter entitled: "*Clinical evaluations and methods of treatment in orthodontics*" refers to interdisciplinary studies, which I started during my doctoral period and which I developed later, the results being published in articles published in ISI-listed or BDI-indexed journals. In this chapter I have presented the studies on the importance of radiological investigations and the use of articulators for orthodontic diagnosis and treatment, as well as some of the clinical and treatment aspects in class I, class II and class III Angle dental malocclusion, as well as associated isolated dento-maxillary anomalies . Also, in this chapter, are made references to the importance of interceptive orthodontic treatment, as well as curative treatment methods in adult patients.

The second chapter of the first part of the habilitation thesis is entitled: "*Oral pathology associated with orthodontic treatment*" and presents the control of the spread of

infections in the recent pandemic context with SARS-COV-2, and the oral pathology that can occur in patients with orthodontic fixed appliances . I also presented some aspects regarding oral pathology in patients with systemic diseases, as well as the evaluation of some biological parameters in the gingival crevicular fluid during dental movements from the beginning of orthodontic treatment in young patients.

The third chapter of the first section is entitled "*Aspects regarding the qualitative changes of the materials used in orthodontics*" and refers to the studies carried out regarding the changes in color and elasticity of the elastomers used in the fixed orthodontic appliances and the orthodontic contentions procedures.

In the second part of the habilitation thesis, the plan for the development of the professional, academic and scientific research career is presented. In the plan of evolution and development of the professional, academic and scientific profile, I will follow the correlation between research and education, the valorization of creativity with innovations in the field of applied research. Starting from the accumulated research experience, the research activity will be continued in several directions, among which I would like to mention the one related to comparative studies on facial and mandibular growth and rotation in different malocclusions and dento-maxillo-facial syndromes with the use of cephalometric measurement and CBCT diagnosis .

I want to continue the research on the qualitative changes and the effectiveness of the new medical devices (TADs, molar distalization, miniplates) and materials used in orthodontic treatment (braces, archwires, elastomers) , with the aim of improving patient cooperation, especially in the case of interdisciplinary treatments to adults (orthodontic, implanto-prosthetic, restorative, periodontal and surgical) and to reducing oro-dental pathology in patients with orthodontic appliances.

Another direction of research will follow some aspects regarding prevention in dentistry and orthodontics, the approach of the pathology of the first permanent molars and the consequences of its early loss and of the teeth in the lateral support area in the mixed dentition, reflected most of the time by the appearance of malocclusions and anomalies dentomaxillary, sometimes with high severity.

A final aspect regarding the research studies with the future PhD students concerns the aspects regarding the new perspective of digital orthodontics, the advantages and disadvantages of new technologies: from intraoral and facial scanning, the use of software for diagnosis and treatment plan, for recording the occlusion and movements of the mandibular condyles in the TMJ, for the manufacture of guide trays for the application of

orthodontic mini-screws or dental aligners.

The third part of this thesis's thesis includes bibliographic references used in the presented studies, with the aim of demonstrating the importance of the research topics approached.

At the end of the habilitation thesis are attached some relevant scientific papers regarding my research activity until now..