

---

**Implementation of Principles of Personalized Medicine in the Scope of Dentistry- A Literature Review****Dr. Sirma Todorova Angelova, DMD, PhD\***

Medical University "Prof. Dr. Paraskev Stoyanov"-Varna, city of Varna, Bulgaria.

Most diseases which affect human organism are influenced by functions, activities and interactions among a great variety of genes. Studies concern the role and significance of genetics and genome for the diagnostics and treatment of clinically manifested disorders. The utilization of genes' based information in the sphere of medicine- and dental medicine-related care is associated to target approaches for maintenance and improvement of individual oral-dental health. Nowadays the conception of dental medicine corresponds to the purpose of optimization of the interrelations between systemic and oral health by performance of complex personally addressed diagnostic, therapeutic and preventive measures. The necessity is to be differentiated levels of the risk of onset and progression of oral-dental disturbances. Personalized dentistry correlates to the potentials of clinical decisions based on thorough analyses of genetic, behavioral and environmental parameters. In the context of multi-factorial and poly-pathogenic nature of oral diseases, personalized pediatric dentistry focuses on interactions between clinical, genome-related and individual characteristics in definite periods of childhood. Researches ascertain that 40% to 60% of the cases of caries susceptibility are genetics'-related, including mutations and polymorphism of separate nucleotides. The gene LYSL2 participates in the antibacterial caries protection. The gene AJAP1 influences the development of teeth structures. In time detection and investigation of these genes facilitate the more efficient prognosis and treatment of caries. A longitudinal study in a cohort of 314 twins confirms the idea of inheritance of tooth decay. Some genes reflect upon the interrelations between host and microorganisms into periodontal tissues, with enhanced activity of pro-inflammatory cytokines. Explorers establish that variations of CDKN2BAS chromosome 9 significantly correlate to the clinical manifestation of aggressive periodontitis. Data about genome and proteome combined with individual oral microbiological profile provide proper therapeutic care of application of antibiotics, non-steroid anti-inflammatory drugs and restorative procedures.

**Keywords:** personalized medicine, dentistry, tooth decay, periodontal diseases, screening, prophylaxis;

**Biography:**

Dr. Sirma Todorova Angelova, DMD, PhD, Chief Assistant-Professor at the Department of Pediatric Dentistry, Faculty of Dental Medicine, Medical University "Prof. Dr. Paraskev Stoyanov"-Varna. In 2005 Angelova gained a Master degree of International Financial Affairs at the University of Economics in Varna, Bulgaria. In 2011 Angelova gained a Master Degree of Dental Medicine at the Medical University-Varna. Since 2011 Angelova has been working as an Assistant-Professor at Medical University-Varna and in 2018 gained an academic degree of Chief-Assistant. She gained a Certificate of Specialization of Pediatric Dentistry in 2015. In 2017 Angelova gained a postgraduate degree after accomplishment of an independent research on the topic of "Caries Risk Assessment and Prevention in Children Suffering from Some Renal Disorders". In 2019 was issued the monograph entitled "Epigenetic and Genetic Aspects of Oral Health in Children with Pyelonephritis" authored by Sirma Todorova Angelova. She authored and co-authored more than 75 papers and participated in more than 60 scientific congresses. Her research interests are in the scope of interactions between environmental factors, common status, oral-dental health and prophylactic cares directed towards optimization of the oral-dental health condition in children suffering from common diseases.