

SALIVARY THERANOSTICS IN PEDIATRIC AND SPECIAL CARE DENTISTRY.

Assoc. Prof. Dr. Bojan Petrovic

ABSTRACT

Saliva as a microfluidic system offers numerous advantages for both general and oral health diagnostic and therapeutic procedures since its assembly is quick, stress-free, inexpensive and non-invasive. Moreover, saliva is frequently referred to as a mirror of the body due to the fact that it can reflect the physiological and pathological state of the body. More than a decade ago the term “Salivaomics” has been introduced with the aim of emphasizing the development of research, knowledge and applications of five salivary constituents: proteome, transcriptome, micro-RNA, metabolome, and microbiome.

Contemporary oral health care delivery in pediatric and special care dentistry is focused toward the development of new diagnostic and therapeutical procedures that are essentially non-invasive due to common issue of intolerability to invasive procedures among these patients, with the possibility of increasing participation rates. Besides the criteria of being easily and non-invasive collected, there are additional standards that should be met before routine application in everyday clinical practice; the existence of specific biomarkers for a disease, and ability of having its biomarkers detected using present-day equipment. For example, there are recent suggestions that a salivary RNA panel could objectively differentiate children with autism spectrum disorder from their neurotypical peers. In addition, due to the ease of the administration, the oral cavity is an attractive site for the drug delivery systems development because through this route it is possible to realize mucosal and trans mucosal, systemic effect.

All these contemporary advances extended the salivary diagnostic approach from the oral to general health pointing towards a promising future of salivary diagnostics for personalized medicine devices.