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Bone-borne versus tooth-borne Rapid Palatal Expansion (RPE) treatment in mixed dentition: Literature review

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The conventional tooth-Borne Rapid Maxillary Expander (TBME) has been used for a long time in widening the palate of maxillary transverse in deficiency patients. Although an acceptable expansion can be achieved, TBME has undesirable side effects as a result of using teeth for anchoring the appliance. Tipping of the posterior teeth, buccal root resorption, buccal cortex dehiscence or fenestration, limited skeletal expansion, relapse or instability of the expansion are some of the post-treatment complications that might occur after treatment with TBME. Recently, after the innovation of implants, new anchorage techniques took place. Skeletal anchorage used mini-implants and palatal screws as anchoring tools for maxillary expansion. Forces from an activated screw can be oriented directly to the palatal bone instead of being transmitted through anchoring teeth. This can be clinically achieved through placement of mini screws on the palatal vault providing temporary skeletal anchorage for maxillary expansion. Bone-anchored maxillary expanders have been invented in order to provide extreme pure skeletal expansion without dentoalveolar detriment. In fact, there are studies that addressed the clinical effectiveness and outcomes of bone-borne maxillary expansion, but they were done mostly on adult subjects with surgical assistance. Unfortunately, few clinical published studies have compared the effectiveness of tooth-borne and bone-borne maxillary expansion in mixed dentition subjects (under 12 years old). Other studies addressed bone-borne expanders in subjects much older than 12 years old, teenagers. Therefore, there should be more extensive clinical studies before considering bone-borne expansion a more effective method for maxillary expansion than tooth-borne expansion.

Biography

Sondus Ahmad Alkadri graduated from International University of Science and Technology, Damascus in 2011. She was recognized by Saudi Dental Commission SDS in 2012 and worked there for one and a half years as a General Practitioner. In 2014, she did a special Orthodontic Training at Al-Kharsa Orthodontic Clinics, Riyadh under the supervision of Prof. Dr. Saad Al-Kharsa. In 2015, she got a Scholarship from Global Platform for Syrian Students to complete her higher education in Orthodontics. She finished her Master's degree in Dental Medicine in September 2016.

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