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MATERNAL EMOTIONAL SUPPORT REDUCES THE TIME OF ADOLESCENT ORTHODONTIC TREATMENT

Unlike other areas of dentistry, the prediction of treatment time in orthodontics involves many variables, such as degree of complexity, systemic aspects and collaboration, some of which can accelerate or delay treatment time. Knowledge about all the factors that can affect treatment time is essential for better case planning. Recently, a group of British researchers[1] published a study that evaluated whether or not socioeconomic and/or psychosocial factors could alter the duration of orthodontic treatment. The data were analyzed in a prospective longitudinal study. A total of 145 adolescents aged 12-16 years were recruited. Psychosocial data were collected via a self-completed questionnaire, which was validated prior to the installation of fixed orthodontic appliances. The results revealed that maternal emotional support was an important predictor of orthodontic treatment duration. Adolescents with high levels of maternal emotional support were more likely to have a shorter duration of orthodontic treatment (at almost four months). According to the authors, this could be explained by a greater maternal involvement in the orthodontic treatment, which facilitated achievement of the necessary orthodontic treatment in a shorter treatment time.

STAINLESS STEEL SURFACE MODIFICATION WITH SILVER REDUCES INTRAORAL BIOFILM

It is no secret that the presence of a fixed orthodontic appliance favors intraoral bacterial accumulation. The presence of too many microorganisms causes the development of carious lesions and periodontal disease. Effecting a balance in the intraoral microbiota can be achieved, but this comes at the expense of hygiene maintenance by the patient. Even so, this approach does not work for everyone, and it has therefore been necessary to make use of devices for this purpose. In this context, highly reactive metal oxide nanoparticles exhibit excellent broad-spectrum biocidal action and have been investigated as antimicrobial agents. Silver has been incorporated into many health care materials because it has antimicrobial properties for a broad spectrum of microorganisms, including gram-positive and -negative bacteria. As a result, the question arose as to whether the incorporation of silver into metallic orthodontic materials would be effective. In seeking an answer to this question, German researchers[2] developed an in-situ study (Fig 1) aimed at quantifying the reduction of intraoral biofilm in bracket material following different surface modifications using silver ions. Silver-coated wires were exposed to the intraoral environment using acrylic plates. The results achieved by these authors led them to conclude that modifying the surface of stainless steel with silver effectively reduces intraoral biofilm formation.

Figure 1 - Intraoral device used to fix the samples to be exposed to the intraoral environment: **A**) lateral view; **B**) occlusal view; and **C**) approximate occlusal-lateral view. Source: Meyer-Kobbe et al.[2], 2019.

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THE PRESENCE OF WIRE AND BRACKETS MAKES THE DIAGNOSIS OF CARIES LESIONS DIFFICULT ON PERIAPICAL RADIOGRAPHS

In addition to the intraoral biofilm accumulation mentioned before, the presence of fixed orthodontic appliances produces radiographic artifacts that make it impossible to obtain a clear radiographic image. In this context, a question arises: does the presence of orthodontic accessories in periapical radiographic images make the diagnosis of interproximal caries difficult? In seeking an answer to this important clinical question, Turkish researchers developed a study[3] in which forty non-cavitated, restorative human premolars and molars were used, ranging from healthy teeth to teeth containing varying degrees of injury. Periapical radiographs were obtained using combinations of two orthodontic materials — three brackets and two arches. Two observers evaluated the images. The intra-observer and inter-observer agreement was calculated using an intraclass correlation coefficient. The authors concluded that the presence of orthodontic brackets associated with orthodontic wire impairs the diagnosis of interproximal dental caries by periapical radiography. The authors emphasized that wire removal improves caries detection by periapical radiography. This is an important clinical finding.

CONSIDERATION IS REQUIRED WHEN SEEKING INFORMATION ON ACCELERATING ORTHODONTIC TREATMENT ON YOUTUBE

Social media has infiltrated many people's lives. These days, we cannot imagine spending a day without the intrusion of Facebook, Instagram, WhatsApp and YouTube into our lives. Even though they were initially developed for the purpose of personal interaction, social media platforms have also become a vehicle for professional interaction. However, doubts exist about the quality of certain content available to lay people. To assess this, Turkish researchers developed a study[4] aimed at investigating YouTube videos related to accelerating orthodontic treatment, using viewer characteristics, content, popularity and ratings. To this end, six keywords related to accelerated orthodontic treatment were searched for on YouTube. After sorting by view count, all 116 videos were evaluated and exclusion criteria were applied. This left 80 videos, which were analyzed for their general characteristics, primary purpose, informativeness of content, and audiovisual quality. In addition, a viewer engagement index and a view rate formula were calculated for each video. The results revealed that most videos were rated as having excellent content, although, as pointed out by the authors, YouTube cannot yet be considered to be an entirely reliable source of information for orthodontic patients.

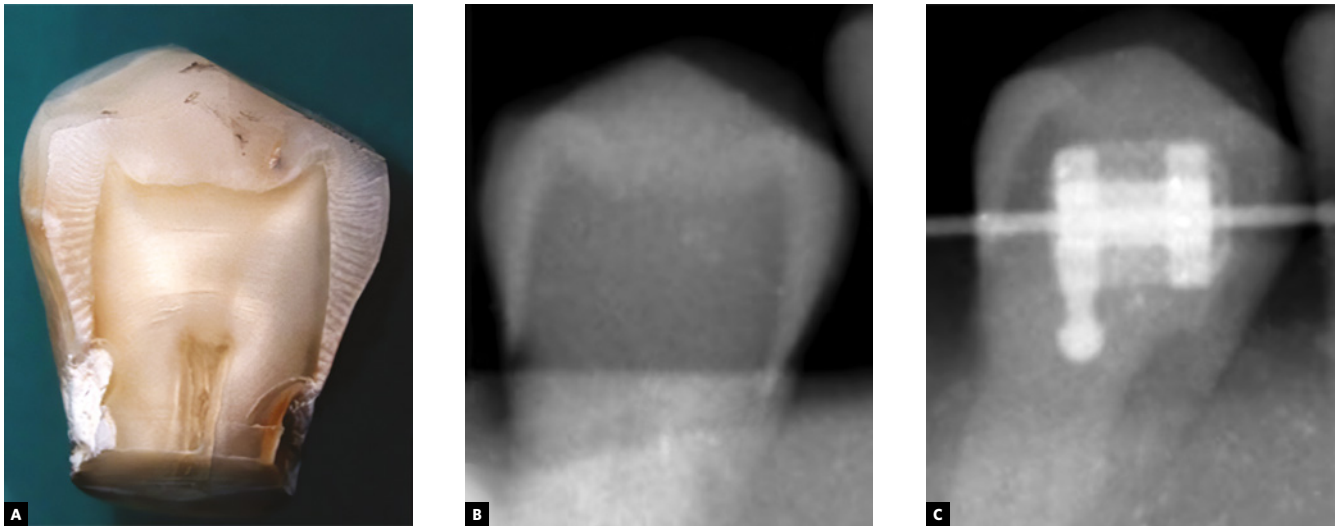

Figure 2 - Images of a premolar: **A**) histological image obtained using a microscope; **B**) periapical image with no bonded orthodontic accessories; and **C**) periapical image with brackets and bonded orthodontic wire. Source: Isman et al.[3], 2019.

BREASTFEEDING FOR LESS THAN FOUR MONTHS INCREASES THE RISK OF POSTERIOR CROSSBITE

The World Health Organization recommends breastfeeding alone for the first six months of life, as this reduces the risk of infectious diseases of the gastrointestinal tract and respiratory system. In addition to the nutritional, immunological and psychological benefits to the baby, breastfeeding can also promote better development of orofacial structures. Although it sounds cliché, there are doubts about the real role of breastfeeding in the development of malocclusion. In order to seek further evidence in this area, Spanish researchers developed a study[5] that aimed to evaluate the long-term effect of breastfeeding on occlusal development in children. For this, a retrospective cohort study, using 320 children, was performed. This sought to evaluate the association between breastfeeding duration and different occlusal characteristics in mixed dentition at nine years of age, as well as the need for orthodontic treatment, according to the Orthodontic Treatment Needs Index and Dental Aesthetics Index. The results showed that breastfeeding for less than four months increases the risk of posterior crossbite in children. However, the duration of breastfeeding is not linked to other traces of malocclusion, or the need for orthodontic treatment in nine-year-olds.

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