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LOW-POWER LASER INCREASES THE STABILITY OF MINI-IMPLANTS

When thinking about orthodontic anchorage, orthodontic mini-implants are considered to be water dividers. Obtaining absolute anchorage with low patient collaboration was only achieved as a result of its development. Despite the many advantages of mini-implants, they are limited in terms of their instability. The stability of mini-implants to bone depends on several factors, such as bone density and thickness of the insertion site, device surface morphology, surgical technique, and the physiological repair process. Recent studies have shown that low-power lasers have promising effects on orthodontics, accelerating orthodontic movement, reducing pain after orthodontic activation, and increasing the stability of orthodontic mini-implants. However, there is still no consensus on whether low-power lasers have been able to

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overcome the issue of stability. For this reason, Brazilian researchers carried out a systematic review with meta-analysis¹ that aimed to evaluate the effects of low-power laser therapy on the stability of mini-implants. An unrestricted search was performed in the following electronic databases: PubMed, Science Direct, Embase, Scopus, Web of Science, Cochrane Library, LILACS, Google Scholar and ClinicalTrials.gov. Randomized clinical trials (RCTs), or non-randomized clinical trials (non-RCTs) that assessed the effects of low-power laser on IMO stability, were included. The authors concluded with this study that the low-power laser has clinical applicability to increase the stability of mini-implants. However, the authors emphasize the need for high-quality clinical trials to explain the real effects of this therapy.

INSTAGRAM AS A MARKETING TOOL FOR ORTHODONTISTS

Before the widespread use of the internet, orthodontists attracted patients through word of mouth and/or referral from other professionals. With the advancement of cyberculture, the internet has become a key promotional tool. However, doubts have been raised regarding professional exposure on social networks. A group of Brazilian researchers developed a study² with the aim of analyzing the public's perception of professional credibility, and the desire to become a customer, based on images posted by orthodontists on Instagram.

The study was conducted using a self-administered digital questionnaire based on images from public Instagram profiles (Fig 1) of orthodontists, found by using certain hashtags. The themes of the posts were analyzed using a qualitative analysis, and the results were expressed in categories. Based on the results obtained, the authors concluded that Instagram is a social network widely used by patients, dental professionals, and dental students, to seek health services. The difference between these groups regarding the perception of professional credibility portrayed by orthodontists is included in this study.



Figure 1: Instagram social network.

COMFORT IS A KEY FACTOR FOR PATIENTS WHEN CHOOSING THE TYPE OF ORTHODONTIC APPLIANCE

The search for orthodontic correction has been growing year after year. The aesthetic appeal, as well as the comfort of orthodontic appliances, are considered to be important factors of this trend. Currently, there is a multitude of orthodontic appliances, ranging from thermoplastic aligners to metal brackets glued to the teeth. The patient's preference for one specific type of appliance is a difficult issue to assess, since this can be influenced not only by factors directly related to orthodontic therapy, but also by subjective factors of the individual, such as previous experiences, attitudes, or beliefs about treatment. Some studies have tried to determine the motivations that lead patients to undergo orthodontic treatment, however, little is known about the reasons that influence their preferences for the available devices and how orthodontists could use this information to identify treatments for each patient. Based on this assumption, a Brazilian research group, headed by a Peruvian researcher, developed a study³ that aimed to evaluate the reasons that influence the preferences of a certain type of orthodontic appliance in relation to another, among patients and orthodontists. To carry out this study, patients and orthodontists answered a questionnaire associated with a set of images containing an image of the same patient using aligners;

lingual, polycrystalline, monocrystalline or buccal metallic brackets (Fig 2). The results obtained with the study revealed that patients care more about comfort and quality of life when using brackets, whereas orthodontists are more concerned with results and clinical performance.

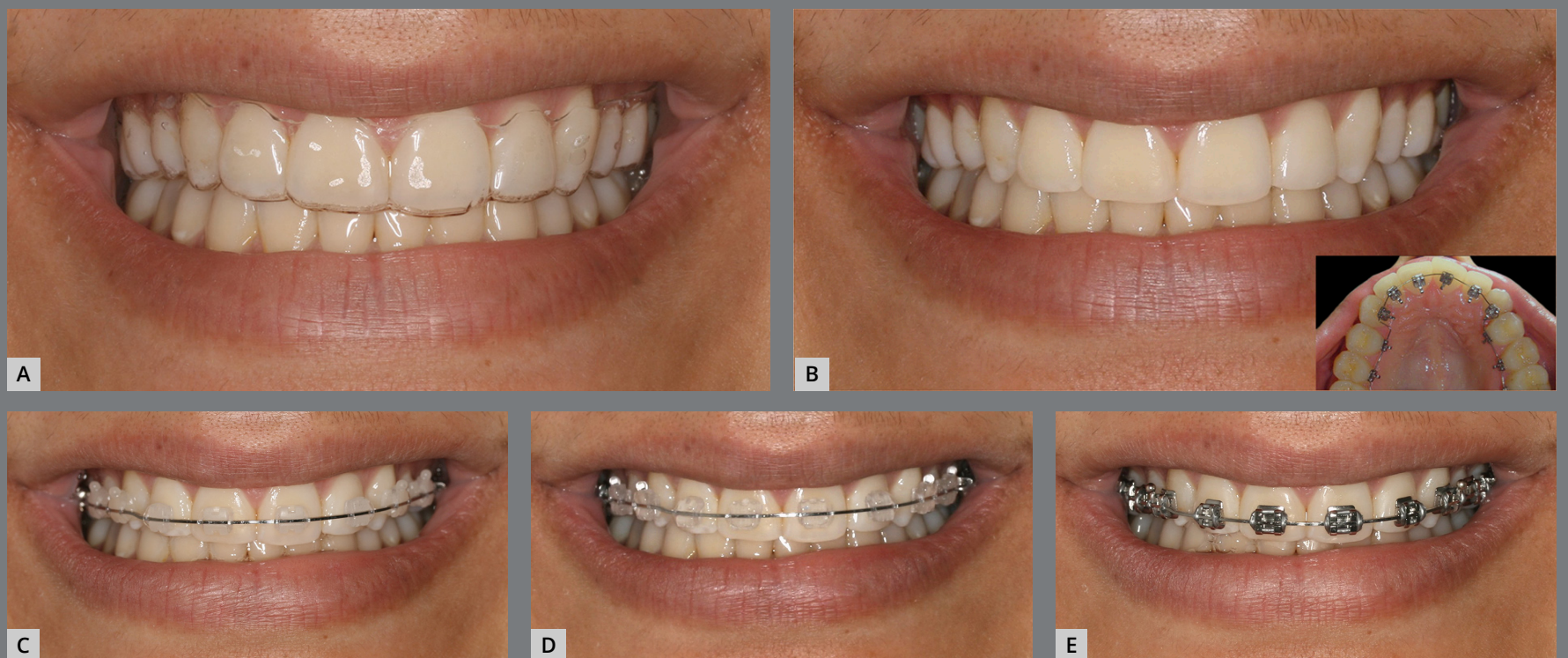


Figure 2: Images of the orthodontic appliances presented to the participants: **A)** Clear aligners; **B)** Lingual metallic brackets.; **C)** Polycrystalline ceramic brackets; **D)** Monocrystalline ceramic brackets; and **E)** Buccal metallic brackets. Source: Maranon-Vasquez et al.³, 2021.

INSTAGRAM AS A TOOL THAT GUIDES PATIENTS REGARDING ORTHODONTIC CONTENT

The Internet has had a transforming effect on the way the world interacts and accesses information. However, health information on the Internet is not regulated. This means that online health information, including information shared on social media, may not be accurate or based on evidence. One of the most popular social media platforms, with around one billion users worldwide, is Instagram, a networking service that lets users share or “post” texts, images, and videos. Instagram can support orthodontists, by helping them to disseminate important topics to increase patients’ knowledge. However, if misused it can have a negative impact. Considering this theme, Australian researchers developed a study⁴ that aimed to evaluate and compare the content of posts on Instagram by patients and professionals who practice orthodontics, in relation to orthodontic retention. To do this, hashtags related to orthodontic retention were searched. Patients’ posts were also qualitatively assessed. The results led the authors to conclude that professionals use Instagram more frequently than patients to post information related to orthodontic retention. It can also be seen that the content of Instagram posts differed between professionals and patients.

EXCESSIVE CONSUMPTION OF SALT IN THE DIET ACCELERATES ORTHODONTIC TOOTH MOVEMENT

The consumption of salt in the diet of most people in Western countries is still about twice the amount recommended in the guidelines proposed by the World Health Organization (WHO). Excessive consumption of salt is associated with several diseases such as hypertension and osteopenia. Sodium and chloride are the chemical components of salt. There is evidence that the local sodium content changes in various tissues in response to the consumption of salt in the diet influences the activity of immune cells, such as macrophages and T cells, and impairs osteoclastogenesis. Based on this, it can be assumed that the sodium content in the periodontal ligament could influence the inflammatory reaction induced by orthodontic tooth movement (OTM). German researchers developed a study⁵ in order to test this hypothesis. For this purpose, an animal model with mice was used, where the expression of genes involved in bone metabolism, periodontal bone loss, OTM and bone density were analyzed. The results of the study led the authors to conclude that diets containing salt accelerate orthodontic tooth movement and promote periodontal bone loss due to reduced bone density, which can be attributed to increased osteoclast activity.

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