



Pain Management Strategies and Improving Comfort in Orthodontics

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Pain comprises an essential component of oral health-related quality of life (OHRQOL). The quality of life (QOL) of patients is considerably associated with their pain perception and experience during treatment so that a satisfactory QOL is warranted when pain/discomfort reaches its minimal level or ceases (1). Orthodontic forces are associated with inflammatory pain, and peripheral nociceptors play an important role in the perception of this pain via immediately responding to stimuli, followed by delayed responses exaggerating the inflammatory condition (2).

According to the International Association for the Study of Pain, pain can be described as experiencing an unsatisfactory sensory and emotional feeling which can be related to either potential or true tissue damage. On the other hand, discomfort definition befalls into experiencing an irritating condition. Although the definition of both concepts somehow overlaps regarding the unpleasant feeling, which is observed in both conditions, only pain is characterized with true discomfort while discomfort is mainly linked with irritation (2). Pain, generally as transient (i.e., short-term) and with mild severity and discomfort, are common features of fixed orthodontic appliance therapy and are seen in all orthodontic procedures such as debonding, application of orthopedic forces, archwire placement, and activation, and separator placement (3).

As noted, the application of orthodontic forces is commonly associated with pain, which is the most reported complaint in this condition and the main concern of patients, clinicians, and parents. In fact, many individuals avoid orthodontic treatment or withdraw from continuing treatment due to the pain perceived during the procedure (4). Fixed orthodontic treatment has been reported

to be associated with pain, particularly during the first 24 hours, in 87-95% of adolescents. Around 39% to 49% of people also report pain in each phase of therapy or following removing the appliance. So, many individuals avoid receiving orthodontic therapy or have low compliance with treatment, and a considerable ratio of them (around 30%) decide to leave the treatment process halfway due to pain. As high as 90% of the people who undergo orthodontic treatment perceive the process as a painful experience (5).

According to recent scientific evidence, if the pain associated with orthodontic treatment is averted from the focus of patients, they may be able to compromise with this pain and accomplish their treatment course. However, the patient must be precisely informed by the clinician about the time required for him/her to adapt to the pain (3). In line with prior studies and according to our findings, patients' perception of pain and discomfort significantly influenced their motivation and decision to continue treatment. The individuals who had been positively motivated regarding the therapy process or those who were adequately informed about the potential pain and discomfort complained of significantly less acute pain compared with the patients in the control group after one week (6).

The pain perceived by patients can be mitigated, and their tolerance for pain can be promoted if they are adequately informed about the potential pain, as well as by taking into consideration their psychological condition (7). Also, to reduce pain, it is usual to prescribe analgesics such as nonsteroidal anti-inflammatory drugs (NSAIDs) before and after the orthodontic procedure. However, pain-reducing expectations from over-the-counter doses of many NSAIDs are not always fulfilled. In addition, exces-

sive use of NSAIDs via prostaglandin antagonism can interrupt tooth movement. Low-level laser therapy is another method that can be beneficial in reducing pain perception (8).

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