practitioners felt the available publications were adequate, but some believed they were not readily available. Thirteen ranked the available publications as insufficient. Two specified that the patient information was inadequate, and 8 were unfamiliar with any publications.

DISCUSSION

Oral piercing is most common in women and usually involves the tongue (Figure 1), followed by the lips and cheeks. The individuals most often having oral piercing range in age from 16 to 30 years, but some as young as 11 to 14 years have been reported. Many complications can develop in relation to oral piercings and dentists need to be prepared to warn their patients about the dangers, but to also manage those who choose to have oral piercings done.

King EM, Brewer E, Brown P: Oral piercings and their complications—how confident are we as a profession? *Br Dent J* 224:887-895, 2018

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ORTHODONTICS

Adult pain experience with orthodontic treatment

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BACKGROUND

Pain is a common experience during orthodontics and contributes to patient noncompliance and/or avoidance or discontinuation of treatments. Usually studies investigating orthodontic pain focus on adolescent patients, with little known about the duration and severity of such pain in adults. Many factors have been proposed as contributing to or ameliorating orthodontic pain, including degree of malalignment, analgesic use, and type of appliance. However, evidence indicates that most mechanical factors are unrelated to the pain experience. A prospective longitudinal study was undertaken to evaluate the pain experience of adults having orthodontic treatment and any relationship between the pain experience and various factors.

METHODS

Fifty-eight adults (57% women) from 5 orthodontic practices were undergoing fixed appliance treatment. Their mean age was 34.69 years. They completed pain experience reports using a visual analog scale (VAS) 4 hours, 24 hours, 3 days, and 7 days after the initial bond-up appointment, the first adjustment appointment, and the second follow-up adjustment appointment. In addition, subjects recorded the dosage and timing of analgesic use to address their pain. Their pain experience was assessed for any relationship between analgesic consumption, dental irregularity, gender, or age.

RESULTS

At baseline, the mean irregularity index score was 7.5 mm. Only 10% of the patients required extraction therapy.

Pain Score

The VAS scores increased from the 4-hour time point to the 24-hour and 3-day time points by 7.69 and 2.75 units, respectively, after adjusting for irregularity and appointment. In addition, the 7-day time point VAS score decreased by 4.23 units compared to the 4-hour time point. No significance was found for the interaction between the appointment and the time point. However, the appointment and time point were significant predictors of the pain score at the $P \leq .10$ level of significance. For the 24-hour and 3-day appointments, VAS scores decreased compared with the 4-hour appointment by 8.32 and 5.94 units, respectively, when adjusted for dental irregularity and time point.

Analgesic Use

The use of analgesics declined for the 24-hour and 3-day time points by 55% and 46%, respectively, compared to the 4-hour time point, after adjustments for irregularity, VAS score, age, and time point. For these same time points, analgesic consumption increased compared to the 4-hour time point by 84% and 23%, respectively, when adjusted for VAS, irregularity, age, and appointment. Analgesic consumption declined by 48% at the 7-day time point compared to the 4-hour time point. Appointment and time point showed no significant interaction.

VAS score, dental irregularity, age, appointment, and time point were significant predictors of analgesic consumption at the

Clinical Significance

Adults who undergo fixed orthodontic therapy should be advised that the pain of treatment will be highest 1 to 3 days after the appliance is placed and 1 to 3 days after each adjustment use. They should be instructed to use analgesics as needed during this time and reassured that this is a normal experience for orthodontic patients.

$P \leq .10$ level of significance. When multivariable analysis was done, only pain score, appointment, and time point remained significant predictors of analgesic consumption. For each unit the VAS score increased, total analgesic consumption increased 3% after adjusting for dental irregularity, age, appointment, and time point.

DISCUSSION

During the first 3 months of treatment, orthodontic patients experienced various levels of pain during the first week after each appointment. Pain scores were greatest after the initial bond-up appointment, with lesser levels at the second appointment, then the first appointment.

Johal A, Ashari AB, Alamiri N, et al: Pain experience in adults undergoing treatment: A longitudinal evaluation. *Angle Orthod* 88:292-298, 2018

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PEDIATRIC DENTISTRY

Silver diamine fluoride for preschool caries

BACKGROUND

Low-income children in the United States are at risk for untreated dental decay, which is often related to their poor access to dental care. Early childhood caries affects young children and is particularly prevalent among vulnerable, uninsured, and low-income populations. Because the consequences of untreated decay in preschool children can have serious consequences for the child's health and can negatively affect many aspects of life for the parents, an effective, low-cost way is needed to treat caries in children at high risk for their development and limited access to dental care. Silver diamine fluoride (SDF) is an anticaries agent that can arrest dental decay and could potentially address the epidemic of untreated decay among young children. It can provide a way to prevent or delay dental treatment until the child reaches an age where cooperation can be elicited more readily. The effectiveness of 38% SDF in arresting active dental caries lesions and reducing or preventing dental pain and infections in preschool children at high risk for caries was investigated. In addition, parental acceptance of SDF treatment and the effectiveness of arrest related to duration of SDF application time were assessed.

METHODS

Thirty-two children with 118 active caries in primary teeth were enrolled in the study. They ranged in age from 2 to 5 years, and most were Hispanic/Latino (71.9%) or white (15.6%). Each received a baseline examination and 38% SDF application to all lesions. Repeat evaluations were done 3 weeks later and again at 3 months later to evaluate the color and consistency of the lesions using gentle pressure with a probe. Other measures were the presence or absence of pain and infection at each visit and through a parent interview. Efficacy of SDF was judged on the basis of clinical outcomes. Treatment success was determined by the presence of dark, hard, and black lesions with no pain or infection. Treatment failure was defined as the presence of lesion progression, a soft yellow lesion, pain, or infection. SDF application was recorded in seconds, with 120 seconds set as the goal. The child's behavior was rated at each encounter. In addition, the parents' acceptability of the treatment was determined 2 to 3 weeks after SDF application via questionnaire, noting whether the process was easy, the parents were comfortable with the discoloration after SDF application, the process was pain free for the child, and the child accepted the taste of the SDF.

RESULTS

Thirty children completed the study, and 30 parents completed the questionnaire. At baseline, 92.4% of the lesions were in posterior teeth and 7.6% in anterior teeth. One hundred six were active, and 12 had initial interproximal decay that could only be evaluated radiographically. At recall, 8 of these 12 could still not be assessed clinically, so they were eliminated from the study.

At first recall, of 102 lesions assessed, 100 appeared black and hard, indicating successful caries arrest for an arrest rate of 98.0%. Two lesions remained only partially black and soft in some areas and were treated with a second SDF application. These were arrested at second recall. None of the children had pain or infection.

Mean SDF application time was 83.5 seconds. Length of time SDF was applied and effectiveness of the treatment showed no significant association.

Clinical Significance

SDF offers the clinician an easy, highly efficient, and nonsurgical method of managing the carious lesions of primary teeth in young children. It could prove very useful in addressing the public health problem of early childhood caries among underserved families and communities.