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Dental Fluorosis Treatment Can Improve the Individuals' OHRQoL? Results from a Randomized Clinical Trial

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This study aimed to evaluate the effect on oral health-related quality of life (OHRQoL) of two treatment protocols for dental fluorosis in individuals enrolled in a randomized clinical trial. Seventy volunteers, who lived in a fluorosis endemic area in Brazil, and had at least four maxillary anterior teeth showing fluorosis with a Thylstrup and Fejerskov index from 1 to 7, were randomized into two treatment groups (n= 35): GI- enamel microabrasion; or GII- microabrasion associated with at-home bleaching. Microabrasion was performed using 37% phosphoric acid and pumice, and at-home tooth bleaching with 10% carbamide peroxide in a tray. Volunteers completed a questionnaire at baseline and 1-month post treatment to assess changes in OHRQoL, using the Oral Impact on Daily Performance (OIDP). Differences in overall impact scores between and within treatment groups were analyzed with Wilcoxon (within) and Mann-Whitney (between) tests. Changes in performance scores were analyzed using Wilcoxon tests ($\alpha < 0.05$). One month after treatment, subjects reported improvement in OHRQoL. Both groups showed lower OIDP scores ($p < 0.001$), but there was no difference between them. Eating, cleaning teeth, smiling and emotional state performance scores were lower after treatment for the whole sample. In conclusion, the treatment with microabrasion improved the OHRQoL in this sample of individuals living in a fluorosis endemic area regardless of the addition of at-home bleaching.

Key Words: dental fluorosis, quality of life, microabrasion, dental bleaching, randomized clinical trial.

Introduction

Dental fluorosis is a developmental disturbance of enamel caused by excessive intake of fluoride during tooth formation (1) and characterized by the presence of bilateral, diffuse, thin and horizontal white striations and stained areas. Altered enamel may present with a wide range of severity. Mild fluorosis appears as opaque/ white parchment enamel, while more severe fluorosis can be characterized by brown stains or pitting of enamel. Post-eruptive features of dental fluorosis may include pitting and larger surface destructions of enamel (2).

Dental fluorosis is not a condition that causes pain or has clinical symptoms(3). However, it is possible to observe negative effects of fluorosis, such as embarrassment from or being unhappy with appearance and hindering smiling, especially in cases involving staining or pitting, typical features of moderate to severe fluorosis (4). A review evaluated the relationships between perceptions of dental appearance/ oral health-related quality of life (OHRQoL) with dental fluorosis and showed that severe fluorosis was consistently reported to be linked to a less favorably dental appearance, having also a negative impact on the individuals' OHRQoL (3).

When dental fluorosis is associated with impaired perception about OHRQoL and causes psychosocial consequences, it should be treated (5-7). The rationale behind elective interventions is that they could improve the quality of life. Subjective evaluations, like the assessment of oral health related quality of life, are critical for determining if the interventions have the intended effect, and if that effect modifies over the time. In the way of evidence-based care, it is crucial to understand the treatment effectiveness considering the patients' perspective (8). Dental fluorosis could be treated with microabrasion, when a mixture of phosphoric acid or fluoridric acid is prepared with pumice in order to remove the enamel structure affected by the staining (9). Other studies have indicated the use of tooth bleaching and/or the association of microabrasion with tooth bleaching to improve the esthetic appearance of fluorotic teeth (10-13).

Indeed, a previous randomized clinical trial conducted in an area of endemic fluorosis evaluated the efficacy of microabrasion with 37% phosphoric acid and pumice and the association of this technique with home bleaching with 10% carbamide peroxide in order to reduce the fluorosis stained areas. It was observed that both treatment protocols tested resulted in a significant decrease of enamel fluorosis stained areas(14). However, only the efficacy of treatments using objective color measurements were performed, but the individual's opinion in relation to their quality of life

was not assessed. A previous randomized clinical trial tested the hypothesis that at-home bleaching could improve the OHRQoL of individuals with tooth discoloration and the authors observed a positive impact of bleaching treatment (15). This study report changes in OHRQoL in individuals presenting dental fluorosis that were treated with microabrasion or microabrasion associated with at-home bleaching. The primary hypothesis was that both treatment protocols would improve the OHRQoL of the subjects.

Material and Methods

Design and Settings

This study was part of a randomized controlled clinical trial that evaluated two treatment protocols for dental fluorosis (microabrasion and microabrasion with home-bleaching). The study was approved by the local Human Research Ethics Committee under protocol 446/10. Participants signed an informed consent form. The guidelines published by the Consolidated Standards of Reporting Trials (CONSORT) for reporting randomized and controlled clinical trials were followed. Study was performed in São João do Rio do Peixe, an endemic area for fluorosis, situated about 490 km from João Pessoa, the capital of Paraíba, Northern Brazil. It is a semiarid region with scanty rainfall. This area has an increased level of fluoride in its groundwater beds, which has led to a high number of cases of severe fluorosis (16). Additional information about this clinical trial could be found elsewhere (14).

Sample Size

Minimum sample size for the RCT was based on the main outcome of the study (removal of fluorosis stain)(14). In order to detect a difference of 20% between groups for removal of fluorosis stains with TF 1 to 7, with a power of 80%, alpha error of 5% and a one-tailed test, a minimum sample size of 25 participants per treatment group was estimated(17). An additional 40% of participants were selected to take account potential losses or refusal to participate, giving a total sample size of 70 participants (35 in each treatment group).

Participants

Individuals were invited to participate in this clinical trial through advertisements on a local radio station, through health personnel, and posters displayed in public schools and Family Health Units. Before the dental examination, each participant filled out a medical history sheet and a complete dental prophylaxis was performed for removal of extrinsic stains. To be included, they had to have good oral and general health and to have at least four maxillary anterior teeth with dental fluorosis ranging from 1 to 7 according to the Thylstrup and Fejerskov (TF) index (18). Individuals with loss or fracture of some maxillary anterior teeth, with evident malocclusion or with more than 1/6 of their buccal surfaces restored were excluded from this study. Participants under orthodontic treatment, with previous hypersensitivity or who had nonvital incisors or canines, smokers, pregnant or lactating women were also excluded. A trained and calibrated examiner performed the diagnosis of dental fluorosis, using the TF index (18). A trained interviewer conducted a questionnaire that collected socio-demographic variables such as age, sex (female or male) and level of education (measured in terms of years of completed schooling) and OHRQoL.

A baseline enamel staining was recorded using a digital camera (Canon EOS Rebel XTi, Ohta-ku, Tokyo, Japan), with lens (Canon EF 100 mm Macro Lens) and default settings (ISO 100, 1/200 speed and F/20 aperture), always under the same flash (Macro Ring Lite MR-14EX), and natural and room illumination conditions. Teeth were dried naturally and photos were taken after 1 min and 30 s. A calibration scale (in millimeters) was included at the side of each photo, adjacent to the teeth. The camera was positioned according to the recommendations of Cochran et al. (19), at the 12 o'clock position and the flash angled at 45° to reduce specular reflection and lip shadow. The images were loaded into the Image Tool software (v. 3.0, San Antonio Dental School, University of Texas Health Science, TX, USA) and two blinded and experienced examiners measured the areas of fluorosis stains (mm2). These evaluations were carried out after the examiners had undergone calibration training to ensure uniformity in measuring the areas of staining.

Interventions

Participants were grouped according to the level of severity of fluorosis and randomized into two treatment groups (n= 35): I- enamel microabrasion with 37% phosphoric acid (Cond Ac Dental Products, FGM Dental Products, Joinville, SC, Brazil) and fine-grained pumice (Quimidrol, Joinville, SC, Brazil); II- association of microabrasion and at-home tooth bleaching (10% carbamide peroxide, Whiteness Perfect, FGM Dental Products).

Participants from both groups received the microabrasive treatment on maxillary teeth affected by fluorosis stains. Before the start of microabrasion, the mucosa was protected with solid vaseline and isolated using rubber dam. Eyeglasses were also used for eye protection. A thin layer of microabrasive paste (± 2.0 mm), consisting of 37% phosphoric acid/pumice (1:1), was applied to the surface of the affected teeth. A rubber cup (Microdont, KG Sorensen, Cotia, SP, Brazil) attached to a contra-angle was used to abrade the tooth surface, at low speed with slight pressure for 10 s. The excess paste was removed with sterile gauze and the teeth were rinsed for 20 s. This procedure was

repeated 12 times during each clinical appointment and was performed in a maximum of two clinical sessions per patient.

At the end of the clinical appointment, the microabraded surface was polished with felt discs (Diamond, FGM Dental Products) and polishing paste (Diamond Excel, FGM Dental Products). Then, after the treated teeth were rinsed and dried, neutral sodium fluoride foam (Fluoride Care, FGM Dental Products) was applied for 1 min. All the patients received oral and written instructions about dietary restrictions during the course of treatment. Participants also received a toothbrush and a dentifrice without whitening agents (1.500 ppm of fluoride) to standardize the oral hygiene regimen.

A total of 58 clinical sessions of microabrasion were performed for group I (23 patients underwent two clinical sessions of treatment and 12 underwent only one session). For group II, 57 sessions of microabrasion were performed (22 patients underwent two clinical sessions and 13 had only one session of microabrasion).

Two days after the microabrasive treatment, two alginate impressions (Jeltrate regular set, Dentsply, Petrópolis, RJ, Brazil) were taken per patient from Group II and stone models were prepared. The buccal surfaces of the anterior teeth (premolar to premolar) on each model were blocked out with five coats of nail polish, starting approximately 1.0 mm above the gingival margin. Custom trays were fabricated using a 1-mm thick soft vinyl material (FGM Dental Products) and a vacuum-formed process.

In another clinical session, each participant in Group II was given a pair of trays and two tubes of bleaching gel. Patients were instructed to use the gel simultaneously in both arches for 4 h in the evening for 2 weeks. All patients were given a hands-on practical demonstration and written instructions on the proper use of the bleaching agents and restrictions regarding diet during the course of treatment. The participants also received toothbrushes and dentifrices without whitening agents to standardize their oral hygiene regimen. Compliance of participants in group II was evaluated based on the amount of gel used.

Each participant was instructed to record tooth sensitivity and gingival irritation during the treatment and one week after the treatment ended. They used a VAS ranked as follows: 1 (no tooth or gingival sensitivity), 2 (mild sensitivity), 3 (considerable sensitivity) and 5 (severe tooth or gingival sensitivity). Participants who reported more than a moderate degree of sensitivity received potassium nitrate and sodium fluoride at 0.2% desensitizing (Desensibilize KF 2%, FGM Dental Products). They were instructed to place the desensitizing gel in the tray and wear it for 10 min per day as recommended by the manufacturer.

Patients were evaluated one month after treatment and the area of fluorosis stains was measured by the same two blinded and experienced examiners following the protocol that was conducted at the baseline evaluations. At the 1-month recall, the remaining areas of fluorosis in each patient were compared with the areas at baseline to verify the reduction.

Outcome

The Brazilian version (20) of the oral impact on daily performance (OIDP)(21) was used to assess the OHRQoL before and one-month post-treatment. The OIDP is an eight item index that measures the oral impacts that affect individual daily activities. According to the instrument, each individual was asked if there was any problem about his/her oral health that caused difficulties with: a. Eating and enjoying food; b. Speaking and pronouncing clearly; c. Cleaning teeth; d. Smiling, laughing and showing teeth without embarrassment; e. Maintain usual emotional state without being irritable; f. Carrying major work or social role; g. Enjoying contact with people, and h. Sleeping and relaxing. For each daily performance, the possible response was yes or no, if the individual reported an oral impact on daily performance, he/she was asked about the major symptom (pain, discomfort, work limitation, dissatisfaction with own appearance or other) and the main oral condition that on his/her opinion had likely caused the difficulty. The frequency and severity of the effect were scored using five-point Likert scale. If no impact was experienced, a zero score was assigned. Performance scores were estimated by multiplying the corresponding frequency and severity scores (ranging from 0 to 25). The OIDP score was the sum of the performance scores (maximum possible score= 200). Higher OIDP scores represent worse OHRQoL.

Data Analysis

Chi-squared and Mann-Whitney tests were used to compare baseline characteristics between groups. To assess changes in OHRQoL, a "per protocol" analysis was conducted, that is, only participants completing the questionnaires both at baseline and at the 1-month follow-up were included. Change scores were calculated by subtracting the scores after treatment from the corresponding baseline scores. Differences in overall impact scores between and within treatment groups were analyzed with Wilcoxon (within) and Mann-Whitney (between) tests. Changes in performance scores were analyzed using Wilcoxon tests. A p-value <0.05 was considered significant. All statistical analyses were performed with Stata 14.0 (Stata Corp, Texas, USA).

Results

The individuals' age ranged from 15 to 39 years, with the mean ($\pm$SD) age being 17.6 ($\pm$4.0) years. Forty-eight

participants were female (68.6%) and twenty-two male (31.4%). At baseline, treatment groups were balanced regarding to age, sex, education level and TF index (Table 1). Means of fluorosis staining areas at baseline were 32.0

Table 1. Sociodemographic characteristics and TF index, according to treatment groups.

Variables	Treatment groups		p (between groups)
	Microabrasion (n= 35)	Microabrasion with home bleaching (n= 35)	
Age (years)	17.4 (±6.5)	17.7 (4.2)	0.8
Sex, n (%)			
Female	22 (62.9)	26 (74.3)	0.3
Male	13 (37.1)	9 (25.7)	
Education level (years of study)	8.8 (±2.1)	9.2 (2.1)	0.4
TF index before treatment	4.0 (1.8-7.0)	3.3 (1.7-6.7)	0.3
Mean staining areas after treatment (mm^2)	20.4 (±7.8)	19.8 (±8.0)	0.7

Table 2. Overall impact scores of OIDP at baseline and 1-month post-treatment, according to treatment groups (n= 62).

Evaluation periods	OIDP Scores - Means (SD)			*p* (between groups)
	Whole sample	Microabrasion (n=33)	Microabrasion with home bleaching (n=29)	
Baseline				
Range	0-60	0-60	0-38	0.487
Mean (SD)	10.79 (14.96)	13.39 (18.45)	7.82 (9.03)	
Percentiles (25,50,75)	0,5,15	0,3,25	0,8,14	
Post-treatment				
Range	0-49	0-49	0-15	0.913
Mean (SD)	2.75 (8.06)	3.45 (10.15)	1.96 (4.75)	
Percentiles (25,50,75)	0,0,0	0,0,0	0,0,0	
Change	8.03 (14.09)	9.93 (15.53)	5.86 (10.53)	
p (bas-1-month)	<0.001	<0.01	<0.001	

Difference statistically significant between groups (p< 0.05).

Table 3. OIDP scores means (SD) of each daily performance at baseline and 1-month after treatment (n= 62)

OIDP items	Baseline	1-month	p (Bas- 1-month)	Improved n (%)	No difference	Reduced
a. Eating and enjoying food	3.37 (4.62)	0.69 (2.77)	<0.01	23 (37.10)	37 (59.68)	2 (3.23)
b. Speaking and pronouncing clearly	0.39 (1.65)	0.22 (1.54)	0.189	4 (6.45)	57 (91.94)	1 (1.61)
c. Cleaning teeth	1.65 (4.48)	0.56 (2.85)	<0.01	14 (22.58)	45 (72.58)	3 (4.84)
d. Smiling, laughing and showing teeth without embarrassment	3.39 (7.01)	0.60 (2.42)	<0.01	18 (29.03)	41 (66.13)	3 (4.84)
e. Maintain usual emotional state without being irritable	1.13 (3.43)	0.19 (0.84)	0.032	9 (14.52)	51 (82.26)	2 (3.23)
f. Carrying out major work or social role	0 (-)	0 (-)	-	0 (-)	62 (100)	0 (-)
g. Enjoying contact with people	0.10 (0.76)	0.05 (0.38)	0.99	1 (1.61)	60 (96.77)	1 (1.61)
h. Sleeping and relaxing	0.32 (2.54)	0.43 (3.18)	0.99	0 (-)	60 (96.77)	2 (3.23)

Difference statistically significant between groups (p< 0.05).

± 10.1 mm² for Group I and 31.4 ± 9.3 mm² for Group II and there was no statistical difference between treatment groups (p= 0.8). At 1-month follow-up, both treatment groups showed a significant reduction in stained areas (p= 0.0001). However, no significant difference between the groups was observed (p= 0.7). Medians and 95% confidence intervals for tooth sensitivity and gingival irritation reported by participants were 1.1 (1.0–2.0) and 1.0 (1.0–2.3) for group I and 1.1 (1.0–1.8) and 1.0 (1.0–2.7) for group II. There was no statistical difference between the groups for tooth sensitivity (p = 1.0) or gingival irritation (p = 0.3).

Eight participants did not answer the OIDP and were not included in the analysis of OHRQoL. Baseline and post-treatment scores are shown in Table 2. OIDP scores 1-month after treatment were significantly lower than at baseline in both groups (GI p< 0.001 and GII p< 0.01). For subsequent analysis, all data were pooled because there were no statistical differences between treatment groups at baseline (p= 0.487) and 1-month post treatment (p= 0.913) (Table 2).

Considering each OIDP performances, the item that evaluate if problems with mouth and teeth had caused any difficult with smiling, laughing and showing teeth without embarrassment had the higher mean at baseline and showed a significant reduction after treatment (p< 0.01). Similarly, the items that asked if the individuals had difficult with eating and enjoying food (p< 0.01), cleaning teeth (p< 0.01), and maintain usual emotional state without being irritable (p= 0.032) also showed a reduction statistically significant (Table 3).

The frequency of daily performances affected at baseline and 1-month after treatment and the main symptoms and oral impairments of each performance are shown in Table 4. The frequency of individuals who reported impact for most daily performances was lower after treatment than at baseline. Figures 1 and 2 show cases of dental fluorosis (moderate to severe and mild, respectively) before and after one month after treatment.

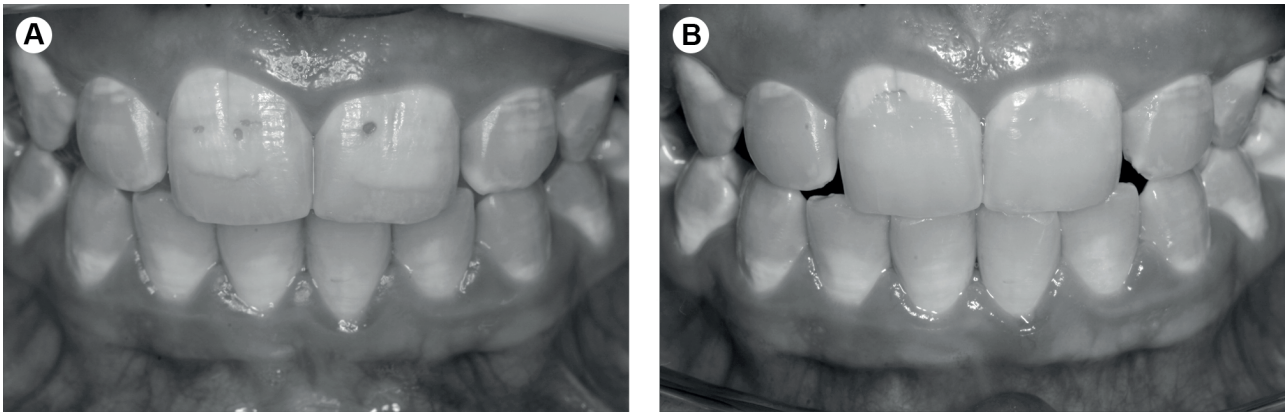

Figure 1. Moderate to severe dental fluorosis. A: Before treatment, classified as a TF5, the opacities are more pronounced where enamel thickness over the surface of the tooth is low (gingival third). Pits are visible in the buccal surface of superior central incisors and this loss of outermost enamel (less than 2 mm in diameter); B: One month after enamel microabrasion.

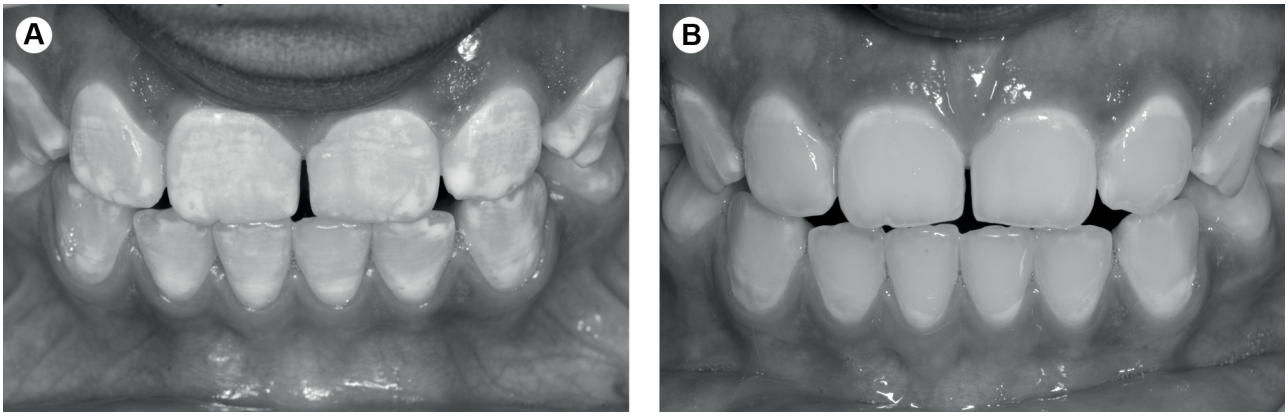

Figure 2. Mild dental fluorosis. A: Before treatment, classified as a TF3 with typical opacities of dental fluorosis. The irregular cloudy areas of opacities are visible in all teeth; C: One month after enamel microabrasion associated to home tooth bleaching.

Discussion

The participants enrolled in this randomized clinical trial and who lived in a fluorosis endemic area presented a significant improvement in quality of life, showing the benefits of the treatment and, thus, confirming the study hypothesis. It is recognized that patients' perceptions of oral health are an important factor in assessing the real needs in order to determine the outcomes from oral healthcare (22). Recently, OHRQoL has been used as an endpoint to evaluate treatments in clinical trials and also to assess changes after dental treatment, since the concerns with aesthetic appearance have increased in dentistry. This emphasizes the importance of the present study, which is believed to be one of the few to report changes in OHRQoL after fluorosis treatment.

Having caries, dental fluorosis or dental calculus have been reported to negatively affect children's oral health-related quality of life. A study evaluated the effect of dental caries, periodontal status and dental fluorosis on the OHRQoL of 12-years-old from China and assessed the agreement between parents and children on the children's OHRQoL. Children's self-reported scores were more strongly associated with their oral health status and OHRQoL than their parents' scores, mainly in the social and emotional well-being domains(4). In this study, the participants age means were higher; however, we also could observe that before fluorosis treatment a major frequency of daily performances were affected by this oral condition. It should be noted that the included sample lived in an area of endemic fluorosis. A study in Brazil showed an association between the presence of fluorosis and areas with excessive fluoride in the water supply (23). Thus, the presence of negative impact can be especially important for individuals living in areas with naturally fluoridated at above-optimal levels (24).

A study evaluated the performance of aesthetic restorative treatments, including direct resin veneers or microabrasion, in patients with endemic fluorosis in the state of Minas Gerais, located in Central Brazil. At 2-years follow-up, there was a reduction in the frequency of participants who reported feeling worried and ashamed about their teeth (25). This study demonstrated that OIDP overall impact scores decreased significantly 1-month after treatment. The most common daily performances affected by oral health conditions were eating, cleaning teeth, smiling and showing teeth and maintain emotional state. Additionally, the frequency of individuals reporting any impact has also decreased after treatment for most daily performances. It is known that the prevalence of dental fluorosis does not constitute a public health problem. However, individuals affected by this oral condition were often reported to notice and / or to be concerned about the appearance of fluorosis (3). In these cases, effective, minimally invasive and low-cost treatments for patients with dental fluorosis should be performed. (6,7). The treatment choice depends on the severity of the disease. The protocols tested in this study are among the most conservative therapies used for treating dental fluorosis, indicated for

Table 4. Frequency of daily performances affected, main symptoms and main oral impairments of each daily performance at baseline and 1-month after treatment (n= 62)

OIDP items	Baseline			1-month		
	Impact n (%)	Main symptoms	Main oral impairments	Impact n (%)	Main symptoms	Main oral impairments
a. Eating and enjoying food	24 (38.71)	Pain 20 Discomfort 3	Dental pain 18 Sensitivity 4	13(20.97)	Pain 11 Discomfort 2	Dental pain 13
b. Speaking and pronouncing clearly	4 (6.45)	Discomfort 3 Sensitivity 1	Dental pain 2 Sensitivity 1	2 (3.23)	Discomfort 1 Pain 1	Dental pain 1 Sensitivity 1
c. Cleaning teeth	14 (22.58)	Pain 10 Discomfort 2	Dental pain 7 Tooth position 3	5 (8.06)	Pain 2 Other 2	Dental pain 2 Tooth position 2
d. Smiling, laughing and showing teeth without embarrassment	20 (32.26)	Appearance 19 Pain 1	Tooth color 16 Tooth position 2	8(12.90)	Appearance 7 Pain 1	Tooth color 5 Tooth position 2
e. Maintain usual emotional state without being irritable	10 (16.3)	Appearance 8 Pain 1	Tooth color 5 Tooth position 2	4 (6.45)	Appearance 4	Tooth color 2 Tooth position 2
f. Carrying major work or social role	0 (-)	-	-	0 (-)	-	-
g. Enjoying contact with people	1 (1.61)	Appearance 1	Tooth position 1	1 (1.61)	Appearance 1	Tooth position 1
h. Sleeping and relaxing	1 (1.61)	Pain 1	Dental pain 1	3 (4.84)	Pain 2 Discomfort 1	Dental pain 2 Tooth position 1

*The data show only the first and the second rank of the mains symptoms and main oral impairments.

less severe cases, for removing and/or reducing superficial enamel opacity. Comparing the treatment protocols, it was found that both had significantly improved the OHRQoL of the individuals. It has been showed previously that both treatments tested resulted in a significant decrease of enamel fluorosis stained areas (14). This study showed that, besides the fact that both treatment protocols were effective in reducing fluoride stains, improvement in OHRQoL was similar for either treatments. Thus, it can be suggested that microabrasion is effective for treating fluorosis regardless of the addition of at-home bleaching. However, it has been suggested that the association of microabrasion with at home bleaching with 10% carbamide peroxide may be the best choice once the tooth bleaching minimizes the contrast between the areas of healthy and stained enamel (10). In fact, at-home bleaching treatment was able to effectively improve the esthetic appearance of discolored teeth (26), and as a consequence has produced an improvement in OHRQoL (15).

Both treatment protocols tested are minimally invasive when compared with other restorative alternatives for treat more severe cases of fluorosis. However, the microabrasion performed with 37% phosphoric acid and pumice has the lowest cost once these materials are widely use in dental office for prophylaxis and bonding procedures. This would be especially important to improve OHRQoL of individuals living in areas of endemic fluorosis, caused by natural fluoride in the water supply. Noteworthy, amounts of fluoride to which individuals are exposed vary not only among countries but also among different regions in a specific country. In Brazil, although it does not constitute a major public health problem of broad dimensions in some regions (27), moderate to severe endemic dental fluorosis, has already been described in some estates (25).

This study is a randomized clinical trial, which is regarded as one of the most valued research methodologies for examining the efficacy or effectiveness of interventions (28). Among the strengths points, there is the high internal validity, due to minimized bias within the study, and the control over exposures. Validated instruments were used to measure dental fluorosis and the outcome, OHRQoL. The OIDP was one of the latest developed socio-dental health index and it claimed to overcome some of the disadvantages of other indicators. The index is brief and easy to use, have an appropriate scoring system and is supported by a relevant theoretical model. A limitation of this study is the fact that follow-up was conducted 1-month after treatment and further studies should investigate the long lasting effects of treatment for dental fluorosis. Also, the study has limited external validity and generalizability. The results obtained applies only to population of endemic areas. In areas of optimal fluoridated water, where mild and very mild fluorosis are mostly common, results may be different.

The microabrasion with 37% phosphoric acid with pumice or the association of this technique with at-home bleaching with 10% carbamide peroxide for treatment of dental fluorosis improved OHRQoL. In this sample of individuals living in a fluorosis endemic area, the treatment with microabrasion improved quality of life regardless of the addition of at-home bleaching.

Resumo

Este estudo teve como objetivo avaliar o efeito na qualidade de vida relacionada à saúde bucal (QVRSB) de dois protocolos de tratamento para fluorose dentária, em indivíduos incluídos em um ensaio clínico randomizado. Setenta voluntários, os quais viviam em uma área de fluorose endêmica no Brasil, e que possuíam pelo menos quatro dentes ântero-superiores com índice de Thylstrup e Fejerskov de 1 a 7, foram randomizados em dois grupos de tratamento (n= 35): GI- microabrasão de esmalte; ou GII- microabrasão associada com clareamento caseiro. A microabrasão foi realizada com ácido fosfórico 37% e pedra pomes e, o clareamento caseiro com peróxido de carbamida 10% e uso de moldeira. Os voluntários responderam um questionário antes e 1 mês após o tratamento, visando avaliar mudanças na QVRSB através do instrumento Oral Impact on Daily Performance (OIDP). Diferenças nos escores de impacto geral entre e nos mesmos grupos de tratamento foram analisadas através dos testes Wilcoxon (mesmo grupo) e Mann-Whitney (entre grupos), respectivamente. Alterações no escores dos domínios foram analisadas usando o teste Wilcoxon (α<0.05). Um mês após o tratamento, os indivíduos relataram melhora na QVRSB. Ambos os grupos apresentaram menores escores do OIDP (p<0,001), sem diferença entre eles. Os escores dos domínios comer, limpar os dentes, sorrir e estado emocioal diminuíram após o tratamento para toda a amostra. Concluiu-se que o tratamento com microabrasão melhorou a QVRSB de indivíduos vivendo em uma área de fluorose endêmica independentemente da associação com o clareamento caseiro.

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