Compliance with education on evidence-based oral hygiene principles among dental students and staff: a best practice implementation project

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ABSTRACT

Objectives: This study aims to assess compliance with evidence-based criteria regarding oral hygiene principle education provided for children and adolescents in the Tabriz Faculty of Dentistry.

Introduction: Oral health problems might lead to lowering the quality of life amongst children and adolescents; so, providing education regarding oral health principles is of great importance.

Methods: Eight audit criteria were assessed using the JBI Practical Application of Clinical Evidence System (PACES) and Getting Research into Practice (GriP) audit and feedback tool. Barriers were identified and dental students and staff were instructed by the team members and asked to educate children and adolescents referred to orthodontic department about oral hygiene practices. Changes in audit criteria were collected by direct observation and interview and reported using descriptive statistics.

Results: In the follow-up phase, the percentage of patients who were advised to brush their teeth with fluoride toothpaste twice a day, floss daily, and seek regular dental check-ups increased, as compared with the baseline audit (37, 43 and 33%, respectively). Professional fluoride application, fissure sealant and individualized intervention and/or prevention treatment plans increased by 30, 35 and 15%, respectively in the follow-up phase; while advice on diet and risks of alcohol, tobacco and smoking increased by 93%.

Conclusion: The use of standard clinical audit tools in dentistry wards causes improvement in the compliance with providing oral hygiene principle instructions among dental students and staff. Standard tools can increase the effectiveness of corrective interventions by identifying weaknesses in patient care process.

Key words: clinical audit, evidence-based practice, implementation, oral hygiene

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What is known about the topic?
- Proper oral hygiene is mandatory for maintaining oral health and optimum oral functions.
- Oral hygiene status is below standards in Iranian children and adolescents.
- A clinical audit is a useful tool for improving health-care behaviors.

What does this article add?
- Interventions, including providing instructive tools and evaluation programs for dental students and staff, can improve oral hygiene instructions provided for children and adolescents.
- Clinical audits lead to the improvement of all audit criteria in this study.
- Oral health policymakers and oral healthcare managers could use these results for implementing suggested interventions in other settings to improve dental students' and staff's compliance with oral health principle instructions for children and adolescents.

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Introduction

Maintaining good oral hygiene is mandatory for the prevention of dental caries and periodontal problems.[1–5] These problems might lead to poor oral function, low self-esteem, pain and decreased quality of life.[1,6] The mechanism of development of caries and periodontal problems depends on the accumulation of dental biofilm; thus, regular removal of dental biofilm is necessary.[4]

On the other hand, we should keep in mind that, adolescence is a period in which puberty occurs and is accompanied by many psychological and physical alterations like steroid hormone-related gingivitis and the neglect of oral hygiene procedures.[7] Thus adolescents are predisposed to oral health problems, such as dental caries and periodontal problems. Therefore, oral health maintenance and instructions regarding oral health are of great importance.[8,9]

Dental biofilm control can be performed in two ways: mechanically (toothbrush, dental floss) and chemically (mouthwashes, dentifrices).[10,11]

Therefore, considering that dental therapeutic procedures are highly expensive, preventing dental diseases might be considered as a cost–benefit approach for both the general population and healthcare organizations.[12]

Although the importance of oral hygiene maintenance is clear, studies have revealed that there are oral health problems, including periodontal and dental issues, in most populations around the world.[13–19]

Studies performed in Iran also revealed that oral health issues are prevalent among Iranian adolescents and children. According to a study, 2.7% of students never brushed their teeth and 62.7% never used dental floss at all.[2] Interesting to know is that only 20 and 13% of the children in southern Iran had dental check-ups and preventive procedures, respectively and more than two-thirds of the children had fair-to-poor oral hygiene.[20] Basir *et al.*[21] claimed that more than 50% of adolescents in southwestern Iran had inadequate oral health knowledge levels, which led to poor oral health.

In addition to oral hygiene's role in maintaining adequate oral condition, health risk behaviors, such as smoking cigarettes, tobacco, alcohol consumption, and improper dietary habits, which unfortunately are prevalent among adolescents, could result in oral health problems, including dental caries, and periodontal problems.[22,23]

Studies reported that about 15% of Iranian adolescents have experienced alcohol use, which is noticeable[24]; and one-third of Iranian adolescents have experienced cigarette smoking, which is a serious social and health concern.[25] Moreover, poor dietary habits, including snacking and excessive sugar intake are prevalent among children and adolescents in Iran.[26] Thus, informing adolescents and children about these health issues is recommended.

It has been proved that the provision of instructions about oral health maintenance results in the improvement of oral health status[27]; therefore, the importance of motivating dental students and staff in healthcare settings to provide patients with useful instructions is desirable. In dental faculties, dental students are in direct contact with the patients; they perform dental procedures and are responsible for educating patients about maintaining oral hygiene.

Dental students' and staff's proper communication skills results in improvement of patients' behaviour and practice toward oral hygiene maintenance.[28] Furthermore, incorporating clinical audit in daily practice can improve staff performance regarding their tasks.[29,30]

Clinical audit in dentistry setting means systematic analysis of dental practice quality, which is an essential part of clinical governance and management.[31] Clinical audit leads to providing patients with high-quality oral health services and instructions, and is necessary for a successful dental practice.[32,33]

Regarding the less-than-perfect oral health status of Iranian children and adolescents, this study aims to use an audit and feedback strategy to promote oral health instructions among children and adolescents referring to Tabriz dental faculty, Iran, through JBI PACES audit and feedback tool.

Objectives

This study aims to improve compliance with providing oral hygiene principle instructions for children and adolescents in Tabriz dental faculty.

The specific objectives were:

(1) To determine current compliance with evidence-based criteria in oral hygiene principle instructions among dental students and staff in Tabriz dental faculty,
(2) To identify barriers and facilitators to improve compliance with evidence-based criteria in oral hygiene principle instructions,
(3) To develop strategies to address areas of noncompliance with oral hygiene principle instructions, and
(4) To improve dental students' and staff's compliance with evidence-based criteria oral hygiene principle instructions.

Methods

Setting

The JBI Clinical Audit project took place in the Orthodontic Department of Dentistry Faculty, Tabriz University of Medical Sciences, Iran, with approximately 40 referred patients daily. Simple orthodontic treatments are performed by dental students in this department. The most prevalent problems of this department in these wards were the lack of attention for providing oral hygiene practices education to the patients.

This evidence implementation project used the JBI Practical Application of Clinical Evidence System (JBI PACES) and Getting Research into Practice (GRiP) audit and feedback tool.

The JBI PACES and GRiP framework for promoting evidence-based healthcare involves three phases of activity:

(1) Establishing a team for the project and undertaking a baseline audit based on criteria informed by the evidence
(2) Reflecting on the results of the baseline audit and designing and implementing strategies to address noncompliance found in the baseline audit informed by the JBI GRiP framework, and
(3) Conducting a follow-up audit to assess the outcomes of the interventions implemented to improve practice and identify future practice issues to be addressed in subsequent audits (one month).[34]

Phase 1: The design of the evidence-based audit criteria, stakeholder engagement (or team establishment) and baseline audit

A team was established, and it undertook a baseline audit based on criteria informed by the evidence. The team members constituted a leader, who is an orthodontist, a professor of community medicine and a healthcare manager as the project coordinator. The project leader was responsible for the promotion of the project, process control and data analysis. The project team members' job was to provide feedback and help with strategy implementation for oral hygiene practice improvement. And the coordinator was in charge of educating students and staff and collecting data. The trained coordinator collected the data, using direct observation and interview.

Evidence-informed audit criteria used in this project were derived from the best available evidence that was presented in the JBI evidence summary about oral hygiene principles in children and adolescents.[35]

The eight evidence-based audit criteria for the improvement of compliance with providing Oral Hygiene Principles Instructions for children and adolescents were considered as follows[35]:

(1) Children and adolescents are advised to brush their teeth with a fluoride toothpaste at least twice daily.
(2) Adolescents are advised to floss daily.
(3) Children whose water supply is deficient in fluoride are prescribed oral fluoride supplementation.
(4) Children and adolescents are advised to receive regular dental check-ups.
(5) Wherever needed, children and adolescents are provided with individualized prevention and/or treatment plan.
(6) Children and adolescents at risk of developing dental caries receive professionally applied or prescription-strength, home-use topical fluorides for caries prevention.
(7) Children and their caregivers, as well as adolescents, receive information regarding proper oral hygiene, diet and risks associated with smoking, chewing tobacco and excessive alcohol consumption.
(8) Wherever appropriate, children and adolescents are provided with sealants on their permanent molars to prevent or minimize the progression of caries.

Firstly, a baseline audit assessment was performed to identify the baseline status. This phase was performed from 30 September 2020 to 20 October 2020. The sample of this study constituted dental students attending the orthodontic course, orthodontic department staff and children and adolescents regularly admitting to the orthodontic department for treatment, which is applied by undergraduate dental students. Table 1 illustrates the audit criteria, sample size and the strategy to measure the compliance with the JBI evidence summary.

Phase 2: Design and implementation of strategies to improve practice

The results of the baseline audit were discussed among team members and strategies for addressing noncompliances and improving the baseline results were designed and implemented (GRiP). The barriers and facilitators were identified, and strategies to overcome the barriers were discussed. Key stakeholders involved in the GRiP process were undergraduate dental students who were attending the orthodontic course, and

Table 1. Audit criteria, sample and approach to the measurement of compliance with best practice

Audit criterion	Sample	Method used to measure percentage compliance with best practice
Children and adolescents are advised to brush their teeth with a fluoride toothpaste at least twice daily.	Patients admitted for orthodontic treatment Base-line audit: 30 Audit 1 (first follow-up): 30	Receiving advice recorded as 'Yes' Receiving no advice recorded as 'No' (interview questionnaire)
Adolescents are advised to floss daily.	Patients admitted for orthodontic treatment Base-line audit: 30 Audit 1 (first follow-up): 30	Receiving advice recorded as 'Yes' Receiving no advice recorded as 'No' (interview questionnaire)
Children whose water supply is deficient in fluoride are prescribed oral fluoride supplementation.	Not applicable	Not applicable, as the exact and updated amount of fluoride in the water supply of this region is not available
Children and adolescents are advised to receive regular dental check-ups.	Patients admitted for orthodontic treatment Base-line audit: 30 Audit 1 (first follow-up): 30	Receiving advice recorded as 'Yes' Receiving no advice recorded as 'No' (interview questionnaire)
Wherever needed, children and adolescents are provided with individualized prevention and/or treatment plan.	Patients admitted for orthodontic treatment Base-line audit: 20 Audit 1 (first follow-up): 20	Referral to pediatric or restorative dentistry departments and providing preventive or restorative procedures in those departments is recorded as 'Yes' Lack of such referral recorded as 'No' (interview questionnaire)
Children and adolescents at risk of developing dental caries receive professionally applied or prescription-strength, home-use topical fluorides for caries prevention.	Patients admitted for orthodontic treatment Base-line audit: 30 Audit 1 (first follow-up): 30	Referral to pediatric dentistry department and fluoride varnish application in that department is considered 'Yes' Lack of such referral recorded as 'No' (interview questionnaire)
Children and their caregivers, and adolescents receive information regarding proper oral hygiene, diet and risks associated with smoking, chewing tobacco and excessive alcohol consumption.	Patients admitted for orthodontic treatment Base-line audit: 30 Audit 1 (first follow-up): 30	Mentioning all of the items including oral hygiene, diet and tobacco and alcohol consumption is recorded as 'Yes' Lack of mentoring of even one of these criteria is recorded as 'No' (interview questionnaire)
Wherever appropriate, children and adolescents are provided with sealants on their permanent molars to prevent or minimize the progression of caries.	Patients admitted for orthodontic treatment Base-line audit: 20 Audit 1 (first follow-up): 20	Referral to pediatric dentistry department and sealant application is considered 'Yes' Lack of such referral recorded as 'No' (interview questionnaire)

staff and patients in the orthodontic department. GRiP process was used to inform key stakeholders, gather opinions, and encourage engagement. This procedure took place from 30 October 2020 to 15 November 2020.

Phase 3: Follow-up audit postimplementation of change strategy

In this phase, a follow-up audit was conducted using the same evidence-based audit criteria as in the baseline audit. Methods of evaluation were a replication of the baseline audit. The sample size for each criterion and methods used to measure compliance with best practice are provided in Table 1. This follow-up audit was conducted from 15 November 2020 to 10 December 2020.

These audits will continue in the future to sustain potential improvements. Potential successful strategies, like providing routine educational programs for students and staff, informational pamphlets and posters, and routine use of Direct Observational of Procedural Skills (DOPS) and audit tools, will become routine in the practice of this department.

Ethical considerations

The project was registered as a quality improvement activity within the faculty of dentistry, and therefore, did not require ethical approval.

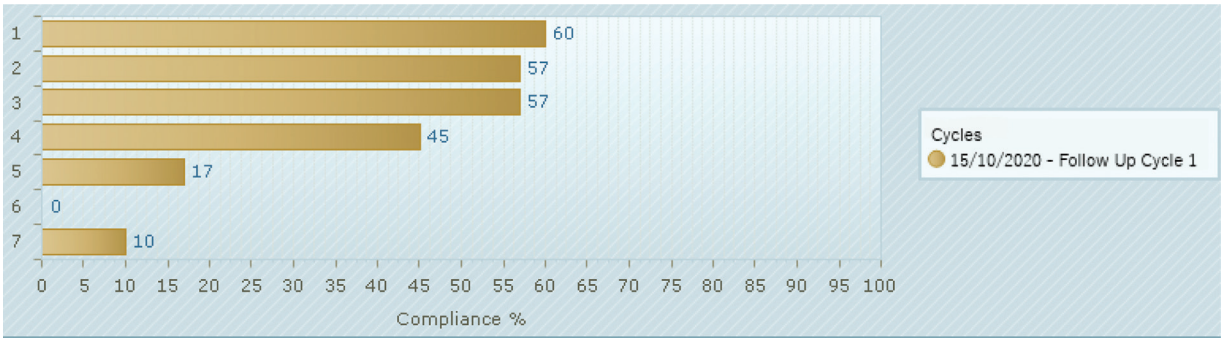

Figure Legend

1.Children and adolescents are advised to brush their teeth with fluoride toothpaste at least twice daily. (30 of 30 samples taken)
2. Adolescents are advised to floss daily. (30 of 30 samples taken)
3. Children and adolescents are advised to receive regular dental check-ups. (30 of 30 samples taken)
4. Where needed, children and adolescents are provided with an individualized prevention and/or treatment plan. (20 of 20 samples taken)
5.Children and adolescents at risk of developing dental caries receive professionally applied or prescription-strength, home use topical fluorides for caries prevention. (30 of 30 samples taken)
6. Children and their caregivers as well as adolescents receive information regarding proper oral hygiene, diet and risks associated with smoking, chewing tobacco, and excessive alcohol consumption. (30 of 30 samples taken)
7.Where appropriate, children and adolescents are provided with sealants on their permanent molars to prevent or minimize the progression of caries. (20 of 20 samples taken)

Figure 1. Baseline compliance with best practice for audit criteria (percentage).

Analysis

Results data on changes in compliance were measured using descriptive statistics embedded in JBI-PACES in the form of percentage changes from baseline.

Results

Phase 1: Baseline audit

The percentage compliance for each audit criterion found in the baseline audit is presented in graphic form using the JBI PACES program (JBI, Adelaide, Australia, 2020) in the form of Fig. 1 (bar graph).

Only 18 out of 30 children and adolescents (60%) were advised to brush their teeth with fluoride toothpaste twice a day (criterion 1) and 17 out of 30 adolescents (57%) were advised to floss daily (criterion 2). Regular dental check-up advice (criterion 4) was given to 57% of patients (17 out of 30 patients). Nine out of 20 patients (45%) were provided with individualized prevention and/or treatment plan (criterion 5) and only 5 out of 30 patients (17%) at risk of developing dental caries received professionally applied fluoride (criterion 6). Surprisingly, none of the 30 patients (0%) received information regarding risks associated with alcohol and tobacco consumption, and only 2 out of 20 patients (10%) were provided sealants on their permanent molars.

Phase 2: Strategies for Getting Research into Practice

Baseline audit results were discussed among team members for planning strategies and identifying barriers.

Some barriers were identified:

(1) Lack of coordination between different departments of the faculty to provide dental interventions whenever necessary, and
(2) Dental students' neglect and lack of motivation to give instructions on proper oral hygiene and important oral health issues to the patients.

Strategies for the improvement of baseline results consisted of designing some informative pamphlets and educational posters (Appendix I, http://links.lww.com/IJEBH/A101 and II, http://links.lww.com/IJEBH/A102), and also direct oral hygiene instructions to patients and their parents according to evidence-based recommendations. Next, team members prepared and offered a list based on audit criteria to dental students and staff. They provided instructions on each audit criterion in the checklist to the students and staff and asked them to instruct patients and their parents about good oral hygiene practices, the necessity of regular dental check-ups and proper diet as well as risks associated with smoking, tobacco and alcohol consumption.

Team members also designed and installed educational posters in the orthodontic department, addressing special oral hygiene, diet and behavioural considerations in orthodontic patients to provide them with visual instructive tools. The team leader designed the pamphlets and posters and the coordinator printed them and educated students and staff regarding audit criteria.

In addition to instructions, to improve the results of criteria 4, 5 and, 8, the team leader and coordinator performed some arrangements to refer patients to paediatric and restorative dentistry departments by formal referral forms and facilitating necessary interventions such as restorations, fissure sealants and fluoride therapy. All team members participated in supervising and monitoring the process.

Barrier 1: Lack of coordination between different departments of the faculty to receive dental interventions wherever necessary

According to discussions held by team members, lack of proper procedure to create coordination between the units of the faculty had caused this obstacle. To solve this problem, team members provided instructions about the referral system for patients and designed, implemented a formal referral form, and monitored the referral system by patients' follow-up a month later in their regular orthodontic visits. In this way, referring patients to receive dental interventions became more formal and the patients received more essential dental interventions because of formal referral.

Barrier 2: Dental students' neglect and lack of motivation to give instructions on proper oral hygiene and important oral health issues to the patients

Table 2 illustrates barriers, strategies to overcome these barriers and their outcomes.

The strategy to overcome this barrier involved organizing meetings with dental students and staff, to emphasize the importance of providing the patients with instructions about proper oral hygiene and important oral health issues. Team members provided a meeting room and lecture content to increase the motivation of dental students and staff for instructing patients about these issues. They also provided a training program, including workshops and seminars about the importance of oral hygiene principles for dental students and staff, using educational PowerPoint slides and dental models. These programs were performed in the seminar room of the orthodontic department, from 8 November 2020 to 15 November 2020. It was a 1-day educational program, and each day a group of students and staff attended.

On the other hand, to audit compliance of students' practice regarding oral hygiene principles, students' course scores were subject to adherence to oral hygiene protocols for patients; thus, team members designed a DOPS evaluation method and evaluated students' performance by DOPS method (Appendix III, http://links.lww.com/IJEBH/A103). The outcome was that the number of students who obtained oral hygiene instructions increased, and the patients received more education regarding oral hygiene and practice.

Phase 3: Follow-up audit

The percentage compliance with best practice for each audit criterion in the follow-up audit, together with the percentage compliance results from the baseline audit, is presented in graphic form using the JBI PACES program (JBI, Adelaide, Australia, 2020) in the form of Fig. 2 (bar graph). Fortunately, 97% of the children and adolescents were advised to brush their teeth with fluoride toothpaste twice a day (criterion 1). All (100%) of the adolescents were advised to floss daily (criterion 2). These results showed significant improvements as compared with baseline audit (approximately 40% increase in both criteria). Regular dental check-up advice (criterion 4) was given to 90% of the patients, as compared

Table 2. Getting Research into Practice matrix

Barrier	Strategy	Resources	Outcomes
1. Lack of coordination between different departments of the faculty to receive dental interventions where necessary	Formal referral of patients to the desired department for receiving dental interventions	Formal referral forms	Patients received more necessary dental interventions owing to formal referral
2. Dental students' neglect and lack of motivation for the instruction of proper oral hygiene and important oral health issues to the patients	Explaining the importance of these items and monitoring and assessing their performance by Direct Observational of Procedural Skills (DOPS) evaluation method and checklists as an essential part of their course's score - Conducting a training program for instructing dental students about the importance of audit criteria.	Educational seminars, DOPS and checklists	Dental students motivated for providing instruction on proper oral hygiene and important oral health issues for the patients - The patients received more education regarding oral hygiene and maintaining oral health.

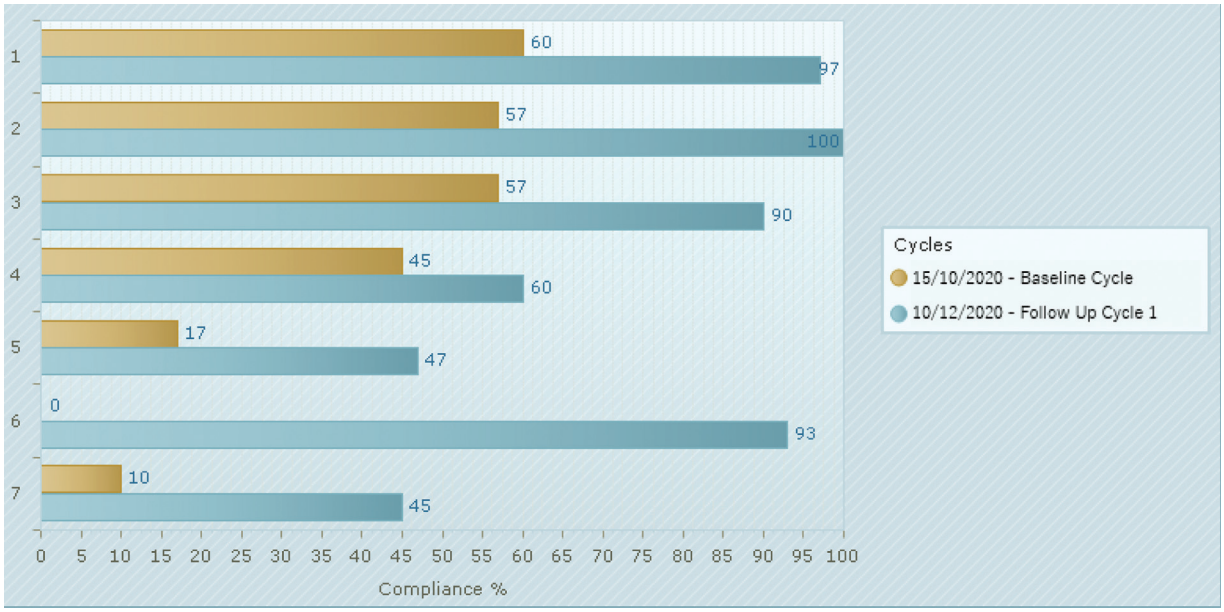

Figure Legend

1.Children and adolescents are advised to brush their teeth with fluoride toothpaste at least twice daily. (30 of 30 samples taken)
2. Adolescents are advised to floss daily. (30 of 30 samples taken)
3. Children and adolescents are advised to receive regular dental check-ups. (30 of 30 samples taken)
4. Where needed, children and adolescents are provided with an individualized prevention and/or treatment plan. (20 of 20 samples taken)
5.Children and adolescents at risk of developing dental caries receive professionally applied or prescription-strength, home use topical fluorides for caries prevention. (30 of 30 samples taken)
6. Children and their caregivers as well as adolescents receive information regarding proper oral hygiene, diet and risks associated with smoking, chewing tobacco, and excessive alcohol consumption. (30 of 30 samples taken)
7.Where appropriate, children and adolescents are provided with sealants on their permanent molars to prevent or minimize the progression of caries. (20 of 20 samples taken)

Figure 2. Compliance with best practice for audit criteria in follow-up audit compared with baseline audit (%).

with 58% in the baseline audit. Sixty percent of the patients were provided with individualized prevention and/or treatment plan (criterion 5), which showed a 15% increase, as compared with the baseline audit. Interestingly, a 30% increase was observed in the professional application of fluoride for patients at risk of developing dental caries (criterion 6) in audit 1, as compared with the baseline audit (47 and 17%, respectively). Significant increase from 0 in the baseline audit to 93% in audit 1 was observed in patients who received information regarding risks associated with alcohol and tobacco consumption. Forty-five percent of the patients were provided with sealants on their permanent molars in the audit 1 phase, as compared with 10% in the baseline audit.

Discussion

This study aimed to determine and improve the compliance with oral hygiene practice instruction among children and adolescents in Tabriz dental faculty, and included 30 patients referred to the orthodontic department.

In this implementation of evidence practice, the results were promising, and improvements in all audit criteria were observed. In the follow-up phase, the percentage of patients who were advised to brush their teeth with fluoride toothpaste twice a day and floss daily increased compared with the baseline audit (37 and 43%, respectively). Advice on diet and risks of alcohol, tobacco and smoking increased 93% in audit 1 phase, which was the most promising result. Ninety percent of the patients were advised to seek regular dental check-ups in the follow-up phase, as compared with 57% in that of the baseline. Professional fluoride application, permanent molars fissures sealant and individualized intervention or/and prevention treatment plans, respectively, increased by 30, 35, and 15%, respectively, in the follow-up phase.

In a study conducted by Simmons *et al.*,[36] the authors concluded that even a single and short session of oral hygiene instruction to kindergarten children would lead to significant improvement in oral hygiene status, which emphasizes the importance of verbal oral hygiene instructions to the patient.

The most noticeable improvements included criteria that had an educational essence, such as advice on brushing the teeth, flossing, the importance of regular dental check-ups and information regarding diet and risks of alcohol, smoking and tobacco. The baseline audit demonstrated poor results, which was unexpected, and ascertains the necessity of oral hygiene principle education to children and adolescents in this country. Similar studies conducted in this country also confirmed less-than-perfect or even poor oral health conditions among children and adolescents.[2,20]

It seems that strategies for addressing these criteria were beneficial. They included providing patients with pamphlets and posters, and educating students and staff to instruct parents and patients about these issues, and monitoring them. Improvement of these items demanded face-to-face education and instructive tools, which were feasible; so, it was predictable that the results would improve in the follow-up phase.

The reason for the remarkable increase in criterion addressing proper oral hygiene and risks of alcohol, tobacco and smoking is that the criterion audit was considered 'Yes' when all the parameters in this criterion were advised to the patient. Keeping in mind that Iran is an Islamic country, speaking of alcohol consumption risks is not routine and is even taboo; because of this, in the baseline audit, it was clarified that none of the patients were provided with that information. In addition, the risks of smoking and tobacco consumption were discussed with almost none of the patients, despite legal and religious restrictions of alcohol use in Iran. Interestingly, Ansari-Moghaddam *et al.*,[37] reported that smoking and alcohol consumption is not rare amongst Iranian adolescents; therefore, informing them of the risks of alcohol and smoking is of great value.

One of the barriers that this practice encountered was neglect and lack of motivation in dental undergraduate students, who were responsible for patients' and parents' education. In a study conducted by Khami *et al.*, it was reported that Iranian dental students' attitude and practice towards preventive dentistry was not satisfactory, and required improvement.[38,39] The strategy to overcome this barrier was explaining the importance of these items by educational seminars, monitoring and assessing their performance by DOPS evaluation method and checklists, as an essential part of their orthodontic course score.

Three criteria in this practice were interventional in essence. They were not satisfying in the baseline audit, which might be the result of incompetency in the referral system in addition to lack of patients' and their parents' information about necessary preventive or restorative interventions. The strategies for improvement of these criteria consisted of the same educational programs as other criteria that were discussed before as well as emphasizing the importance of these interventions for maintaining oral health. Also, the improvement of patient referral procedure by using formal referral forms and improving patients' motivation for seeking necessary interventions in different departments of faculty that provide low-cost services were helpful; these efforts resulted in improving the baseline audit results. Likewise, Shaffie and Cheng[40] revealed in their study that enhancing the quality of referral systems led to better patient care and health service.

Criterion number 3 in JBI's original summary of evidence prescribing oral fluoride supplementation for children, whose water supply is deficient in fluoride, was not applicable in our practice because the exact amount of fluoride in the water supply of this region is not available (Table 1).

Similar studies have been performed to implement the best evidence into practice in the field of oral health; Dickinson *et al.*[41] showed that nurses' awareness of oral health care in children significantly improved after the introduction of best practice guidelines in a paediatric hospital.

Rivett[42] also claimed that after performing the best evidence implementation project, compliance with the best practice in oral health improved in residential aged care. Amoah *et al.*,[43] in another study using JBI PACES, concluded that practice regarding formocresol pulpotomy improved for patients attending a university clinic.

In another study conducted by Chan *et al.*,[44] translating best evidence into nurses' oral health care practice resulted in the improvement of their knowledge and practice for care-dependent adults. It leads to developing better oral health in patients.

Key lessons of this study, that is great improvements in educating patients and providing them with health services, can be achieved even by low cost and simple actions, which reminds the importance of staff and society education regarding oral hygiene and oral health principles. Results of other studies confirmed that oral health education is beneficial for the improvement of oral hygiene and oral health, which is in agreement with the results of our practice.[45,46] These audits should continue in the future to sustain these improvements, and successful strategies like providing routine

educational programs for students and staff, informational pamphlets and posters and routine use of DOPS and audit tools should become routine in the practice of this department.

Conclusion

All audit criteria improved after the implementation of the best evidence available into practice regarding the improvement of compliance with informing patients and providing them with oral health services in the follow-up phase, so the aims of this project were realized. These results indicate the value and effectiveness of implementing best evidence in daily practice.

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Conflicts of interest

The authors report no conflicts of interest.

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