

Oral health beyond mouth: Patients' opinions on extraoral examination

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Abstract

Background: Extraoral examination (EOE) is an inherent component of the physical examination in dentistry. Nevertheless, a few studies inspect its practice by dental professionals and patient perception of it.

Aim: The aim was to evaluate patients' opinions on the EOE and their attitude toward it.

Materials and Methods: A questionnaire was distributed to a random sample of 216 dental patients with 81% response rate, during August–September 2016, in four dental clinics in greater Beirut, Lebanon. Patients were asked if they had EOE before and their perception of it as well as about its significance.

Results: Ninety-one percent of the studied sample reported not receiving EOE previously. In general, patients displayed a positive perception of the examination. Moreover, having previous such examination seemed not related with the receptivity to have it in the future.

Conclusion: The EOE is an underutilized service in oral care that patients seem to accept and perceive positively when offered.

Clinical Significance: More emphasis should be placed on the importance of providing EOE to patients systematically.

Introduction

It has long been established that a systematic extraoral examination (EOE) occupies an intrinsic role in the physical examination of patients presenting for oral/dental treatments. Unfortunately, this part of the diagnostic sequence is underestimated and seldom performed.^[1] With the exception of a couple of articles tackling the issue directly,^[1,2] no other publications seem to tackle the issue of patients' perception of the EOE.

When present to a dental office, a patient may be complaining of a specific problem, in need of regular evaluation, or referred from another health-care provider. Eventually, proper diagnosis of existing problems is essentially the first step in ensuring appropriate oral health care. The practitioner's rationale, his diagnostic approach, and the urge to arrive at an appropriate diagnosis present challenges in daily dental practice.^[1] By definition, diagnosis is the determination of the nature of a disease, injury, or congenital defect.^[3] The purpose of establishing a diagnosis is to be able to use the safest and most effective treatment, as well as having precise prognostication.

A diagnosis is reached by the clinical examination, which comprises the history of present illness, physical examination, and further investigations.^[4] The EOE is an inherent element in the physical examination.

Well-established procedures in physical examination consist of inspection, palpation, percussion, auscultation, olfaction, and function evaluation.^[5]

Conventionally, a physical examination conducted by the dentist is limited to examining superficial intraoral tissues, in addition to those of the head, neck, and exposed body parts.^[6] The EOE may be extended to include the general appearance of the patient. Scalp, eyes, neck, hands, and skin of the arms and face should be inspected for significant information. Each structure of these visually accessible areas can indicate signs that alert the practitioner to possible underlying systemic disease.^[7] Occasionally, evaluation of an oral lesion logically leads to an inquiry about specific lesions on mucosal or cutaneous surfaces or even the enlargement of other groups of lymph nodes. Even though such inquiries can be answered usually by questioning the patient, examination of axillary nodes or other cutaneous

surfaces by the dentist is completely valid and beneficial if he/she is properly trained and competent.^[6]

The present study was designed to investigate patients' opinions and behavior toward EOE as a systematic element in the diagnostic process in dentistry. It further provides an idea whether patients are receiving this examination by their dentists or not.

Materials and Methods

A cross-sectional study was conducted using a self-guided, voluntary, and anonymous questionnaire [Figure 1] that was distributed with minimal involvement (all patients received same initial explanation of the patient, after having oral permission and consent of patients with no additional intervention) to a randomly-selected sample of 216 patients, of which 175 participated (81% response rate). The study was carried on from August to September 2016 in four private dental clinics in greater Beirut, Lebanon. These four dental clinics were chosen for the ease of access (convenience) and the fact that they were distributed over Beirut.

Questions were preceded with a brief introduction to the survey and the EOE following verbal patient consent. The survey included an "occupation" field, and surveys of individuals belonging to the dental domain (dentists and dental assistants) were excluded (9 patients) so that the study presents the EOE from others rather than dental professionals. Consequently, 166 respondents remained and were considered in the study ($n = 166$) depicting a representative sample.

The sample size was calculated according to a confidence level of 95% for a very large population and a marginal error of 8%. The needed sample size was estimated to be 150.

The used formula is the following:

$$\text{Needed sample} = \frac{z^2 \times p(1-p)}{d^2} = \frac{1.96^2 \times 0.5(0.5)}{0.08^2} \cong 150$$

where,

z =Z-score (1.96 for a confidence level of 95%),

p =Expected proportion (0.5 used for sample size needed),

d =Marginal error.

Consequently, the sample studied can be considered as a representative sample.

The survey consisted of 11 objective questions assessing patient's opinion regarding the EOE and its significance and whether they have had such an examination before. Both English and Arabic languages were used to allow for maximum understanding for the patients.

For data entry and analysis, the Statistical Package for Social Sciences for Windows version 24 (IBM Corp., Armonk, New York, USA) was used. Chi-square test and Fisher's exact test were used to test statistical significance.

Results

Of the 166 patients, there were 97 female (58.4%) and 69 male (41.6%). The age ranged from 18 to 63 years, with a mean of 34.3 years.

The striking majority of patients ($n = 151, 91%$) reported not having any form of EOE previously. The remaining 9% ($n = 15$) stated that they had received this type of examination previously.

Most of the responders answered that the EOE is important ($n = 105, 63.3%$) while 35 patients (21.1%) considered it of no benefit to them, and the remaining 26 (15.7%) stated they have no opinion on the issue. Moreover, a majority ($n = 104, 62.7%$) stated that it is a time well spent, unlike 27 patients (16.3%) who considered it too time-consuming. As an experience, 63.9% ($n = 106$) considered the EOE a positive experience and 6% ($n = 10$) considered it a negative one, with 24.7% ($n = 41$) had no opinion and 5.4% ($n = 9$) did not respond to this question.

Regarding the opinions on the significance of the EOE, 60.8% ($n = 101$) of patients believed that this examination helps in detecting oral cancer, with 18.1% ($n = 30$) stating that they have not heard of oral cancer previously. Furthermore, 66.9% ($n = 111$) and 77.1% ($n = 128$) said that the EOE has a role in diagnosing oral pathologies and systemic diseases, respectively.

Concerning the question, whether dentists have nothing to do with anything outside the mouth, 37.3% ($n = 62$) agreed on the idea while 62.7% ($n = 104$) disagreed.

Finally, 62% of responders ($n = 103$) reported that they would like to receive EOE as a part of systematic examination in dental settings and 22.9% ($n = 38$) they would not want to, while 15.1% ($n = 25$) said they do not care if they receive it or not.

Those who have had an EOE previously were significantly more likely to believe that the dentist role is not restricted to mouth and teeth ($P < 0.05$) [Table 1]. It seemed that receiving an EOE previously is not related to desire to undergo EOE in the future ($P > 0.05$) [Table 2].

All of the questions in the survey as well as the corresponding results are listed in Table 3.

Discussion

The high percentage (91%) of patients reporting not having EOE before is alarming and suggests that dentists are not providing a complete physical examination. In another study, only 13% of dental patients stated that their chin or neck was examined as a part of their examination.^[2] Similarly, Johns demonstrated that 83.6% of his studied sample of dental patients reported never receiving an EOE before. An overwhelming amount of evidence shows that the majority of health-care providers, oral health and medical professionals are not performing a complete EOE and intraoral examination for their patients.^[1,8-10] One of the reasons for the very low percentage of patients receiving EOE may be the lack of emphasis on this examination throughout the training of dental professionals.^[11]

Considering that 18.1% of surveyed patients reported they have not heard of oral cancer before, this shows that public awareness should be promoted. Awojobi *et al.* reported similar results in which 20% of patients did not know that oral cancer existed.^[2] In another study, Monteiro *et al.* reported that 31.4% of their studied patients have heard of oral cancer,^[12] lower than that reported by Hassona *et al.* which was 54.4%.^[13]

Patient #

هذا الاستطلاع هو جزء من دراسة عن آراء المرضى بالفحص السريري الخارج للفم في طب الأسنان. هذا الفحص يشمل على الأعضاء الأخرى غير الفم والأسنان بدأ من الرأس والرقبة ويمكن أن يشمل حتى القدمين مروراً بسطح الجلد وأخذ الضغط والنبض والحرارة للمريض.
 This survey is about patients' opinions on the **extra-oral examination** in **dentistry**. The extra-oral examination is a part of the physical examination that constitutes examining structures outside the mouth and **may** include the head, neck, hands, skin, recording blood pressure and pulse, temperature and others when present to a dental clinic...

المهنة / Occupation _____

العمر / Age _____ الجنس / Gender: ذكر / Male أنثى / Female غير ذلك / Other

1- Have you ever had an examination of structures outside of your mouth by your dentist?
 هل سبق أن قام طبيب أسناتك بفحص أي أعضاء خارج الفم (رأس- رقبة - جلد - يد...)?
 نعم / Yes كلا / No

For each of the following items, choose the answer that best describes your feelings:
 لكل من الأسئلة التالية، اختر الأجوبة التي تعبر عن رأيك

I think that the extra-oral examination in dentistry is
 أعتقد أن الفحص الخارج الفم في طب الأسنان

2- مهم / Important لا تعليق / No opinion لا يفيدني / Of no benefit to me
 3- وقت مفيد / time well-spent لا تعليق / No opinion مضيعة للوقت / too time consuming
 4- تجربة إيجابية / A positive experience لا تعليق / No opinion تجربة سلبية / A negative experience

The extra-oral examination makes me feel
 هذا النوع من الفحص يجعلني أشعر

5- براحة أكثر / More relaxed لا تعليق / No opinion براحة أقل / Less relaxed
 6- بثقة أكبر باهتمام الطبيب / More confident of my care لا تعليق / No opinion متوتر / Anxious about my care

I think that the extra-oral examination helps in
 أعتقد أن الفحص الخارج الفم عند طبيب الأسنان يساعد على

7- اكتشاف سرطان الفم / Detecting oral cancer: نعم / Yes كلا / No لم أسمع بسرطان الفم من قبل / I haven't heard of oral cancer
 8- تشخيص بعض الأمراض الفموية / Diagnosing some oral diseases: نعم / Yes كلا / No
 9- اكتشاف علامات مبكرة لأمراض عامة / Detecting early signs of systemic diseases: نعم / Yes كلا / No

10- I think that the dentist is just to treat teeth and has nothing to do with anything outside the mouth.
 أعتقد أن طبيب الأسنان مهمته محصورة بالاسنان وليس له علاقة بأي شيء آخر في الجسم.
 أوافق / I agree أعارض / I disagree

11- I would like to have the benefit of the extra-oral examination systematically in the dental office.
 أود أن أحظى بفحص خارج الفم كجزء من الفحص الدوري عند زيارتي لطبيب الأسنان.
 نعم / Yes كلا / No لا يهمني / Don't care

Thank you for your kind cooperation. شكرا لكم لتعاونكم.

Figure 1: Questionnaire distributed to patients

Table 1: Chi-square test showing significant relationship between those who stated that they had a previous EOE and who answered that dentist role is not restricted to mouth and teeth (P=0.044<0.05)

| Test | Value | df | Asymptotic significance (two-sided) | Exact significant (two-sided) | Exact significant (one-sided) |
|-----------------------|--------------------|----|-------------------------------------|-------------------------------|-------------------------------|
| Pearson Chi-square | 4.065 ^a | 1 | 0.044 | | |
| Number of valid cases | 166 | | | | |

^aZero cells (0.0%) have expected count<5. The minimum expected count is 5.60, EOE: Extraoral examination

Consequently, although our reported results seem to be among the lowest worldwide in the previously mentioned studies, oral cancer awareness is in a huge need of promotion in Lebanon.

In general, patients were positive regarding receiving EOE where the majorities considered such examination important, time well spent and a positive experience [Figure 2]; furthermore, they reported that they would feel more confident about their care after receiving this examination. This may contribute to the



Figure 2: Patients attitudes toward the extraoral examination

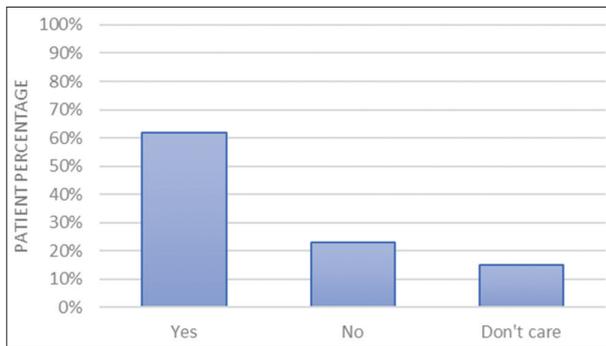


Figure 3: Patients desire to have systematic extraoral examination

Table 2: Chi-square test showing insignificant relationship between those who stated that they had a previous EOE (Question 1) and those who answered that they would like to have EOE in the future (Question 11) ($P>0.05$)

| Question 1 \ Question 11 | Question 11 | | | Total |
|--------------------------|--------------------|----|-------------------------------------|-------|
| | Yes | No | Don't care | |
| Question 1 | | | | |
| Yes | 11 | 2 | 2 | 15 |
| No | 92 | 36 | 23 | 151 |
| Total | 103 | 38 | 25 | 166 |
| Test | Value | df | Asymptotic significance (two-sided) | |
| Pearson Chi-square | 1.029 ^a | 2 | 0.598 | |
| Likelihood ratio | 1.119 | 2 | 0.571 | |
| Number of valid cases | 166 | | | |

^aTwo cells (33.3%) have expected count < 5. The minimum expected count is 2.26. EOE: Extraoral examination

Table 3: Survey questions and results

| Question | Frequency (%) |
|--|---------------|
| Gender | |
| Male | 69 (41.6) |
| Female | 97 (58.4) |
| Other | 0 (0) |
| Total | 166 (100.0) |
| Question 1: Previous examination | |
| Yes | 15 (9.0) |
| No | 151 (91.0) |
| Total | 166 (100.0) |
| Question 2: I think that the EOE in dentistry is: | |
| Worthwhile | 105 (63.3) |
| No opinion | 26 (15.7) |
| Of no benefit | 35 (21.1) |
| Total | 166 (100.0) |
| Question 3: I think that the EOE in dentistry is: | |
| No answer | 9 (5.4) |
| Time well spent | 104 (62.7) |
| No opinion | 26 (15.7) |
| Time consumed | 27 (16.3) |
| Total | 166 (100.0) |
| Question 4: I think that the EOE in dentistry is: | |
| No answer | 9 (5.4) |
| Positive experience | 106 (63.9) |
| No opinion | 41 (24.7) |
| Time consumed | 10 (6.0) |
| Total | 166 (100.0) |
| Question 5: The EOE makes me feel | |
| No answer | 4 (2.4) |
| More relaxed | 84 (50.6) |
| No opinion | 49 (29.5) |
| Less relaxed | 29 (17.5) |
| Total | 166 (100.0) |
| Question 6: The EOE makes me feel | |
| No answer | 4 (2.4) |
| More confident | 117 (70.5) |
| No opinion | 22 (13.3) |
| Less confident | 23 (13.9) |
| Total | 166 (100.0) |
| Question 7: I think that the EOE helps in detecting oral cancer: | |
| No answer | 2 (1.2) |
| Yes | 101 (60.8) |

(Contd..)

Table 3: (Continued...)

| Question | Frequency (%) |
|---|---------------|
| No | 33 (19.9) |
| Have not heard of oral cancer | 30 (18.1) |
| Total | 166 (100.0) |
| Question 8: I think that the EOE helps in diagnosing some oral diseases: | |
| No answer | 4 (2.4) |
| Yes | 111 (66.9) |
| No | 51 (30.7) |
| Total | 166 (100.0) |
| Question 9: I think that the EOE helps in detecting early signs of systemic diseases: | |
| Yes | 128 (77.1) |
| No | 38 (22.9) |
| Total | 166 (100.0) |
| Question 10: Dentist's role is limited to teeth | |
| I agree | 62 (37.3) |
| I disagree | 104 (62.7) |
| Total | 166 (100.00) |
| Question 11: I would like to have the benefit of the extraoral exam systematically: | |
| Yes | 103 (62.0) |
| No | 38 (22.9) |
| Do not care | 25 (15.1) |
| Total | 166 (100.0) |

EOE: Extraoral examination

dentist-patient relation and ameliorate patients trust in their dentists.

As more patients and the public become aware of the importance of the EOE and intraoral examinations, they will ask for this service.^[1] This was evident in our results where 62% of the patients demonstrated their desire to receive EOE systematically [Figure 3]. Studies have confirmed the importance of the EOE and intraoral examinations in early oral and cervical cancer detection, as well as in the detection of other conditions.^[11,14] Moreover, when examining, dentists rarely inform patients why they examine extraoral structures, yet the majority of patients would want to know.^[15]

In addition to its importance in oral medicine, the evaluation of extraoral tissues by the dentist can significantly contribute to the collaboration of dentists and physicians in managing many problems.^[6] Nevertheless, this specific step of the physical examination should not be time-consuming for both the dentist and patient. Therefore, good training to carry out the examination fast and concentrating on key issues while performing it would help getting the clinical information needed within the least possible time.

The limitation of the present study is the sample selection technique. The sample studied represents purposive sampling

in Beirut, Lebanon. In future studies, larger randomized samples or several small random samples could be taken from various locations throughout the country to make the results more generalizable for the entire population. Another important parameter to be assessed in the future studies would be surveying dentists why the EOE is not being provided by the majority of them.

Conclusion

Results obtained in this study suggest that most dental patients did not receive a systematic EOE. Moreover, patients' survey reported having a positive attitude toward receiving EOE and that they desire to receive it systematically. Given its importance in the diagnosis of oral and systemic diseases, as well as in the early detection of oral cancer, performing EOE should be emphasized in the dental profession, and dentists' knowledge and skills must be reinforced and systematically updated in dental schools and continuing professional education programs. Greater emphasis should be placed on the fact that dentists have a larger role to play than just to take care of dentition.

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References

1. Johns SG. The extraoral examination from the perspective of the patient. *J Dent Hyg* 2001;75:282-9.
2. Awojobi O, Scott SE, Newton T. Patients' perceptions of oral cancer screening in dental practice: A cross-sectional study. *BMC Oral Health* 2012;12:55.
3. Stedman TL. *Diagnosis. Stedman's Medical Dictionary for the Health Professions and Nursing*. Philadelphia, PA: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2016. Available from: <http://www.stedmanonline.com>. [Last cited on 2016 Oct 10].
4. Scully C. *Diagnosis: History*. In: *Oral and Maxillofacial Medicine: The Basis of Diagnosis and Treatment*. Edinburgh: Churchill Livingstone/Elsevier; 2013. p. 2-9.
5. Terézhalmy G, Huber M. Basic procedures in physical examination. In: *Physical Evaluation in Dental Practice*. Ames, Iowa: Wiley-blackwell; 2009. p. 39-63.
6. Glick M, Greenberg M, Ship J. Introduction to oral medicine and oral diagnosis: Evaluation of the dental patient. In: *Burket's Oral Medicine*. 11th ed. Hamilton, Ontario: BC Decker; 2008. p. 1-16.
7. Field E, Longman L, Tyldesley W. Principles of oral medicine: Assessment and investigation of patients. In: *Tyldesley's Oral medicine*. 5th ed. Oxford: Oxford University Press; 2003. p. 13-22.
8. Saleh A, Kong YH, Haron N, Aripin SF, Vadiveloo M, Hussaini H *et al*. Oral cancer screening in private dental practices in a developing country: Opportunities and challenges. *Community Dent Oral Epidemiol* 2017;45:112-9.

9. Tax CL, Haslam SK, Brilliant M, Doucette HJ, Cameron JE, Wade SE. Oral cancer screening: Knowledge is not enough. *Int J Dent Hyg* 2015.
10. López-Jornet P, Camacho-Alonso F, Molina-Miñano F. Knowledge and attitudes about oral cancer among dentists in Spain. *J Eval Clin Pract* 2010;16:129-33.
11. Decuseara G, MacCarthy D, Menezes G. Oral cancer: Knowledge, practices and opinions of dentists in Ireland. *J Ir Dent Assoc* 2011;57:209-14.
12. Monteiro LS, Salazar F, Pacheco J, Warnakulasuriya S. Oral cancer awareness and knowledge in the city of Valongo, Portugal. *Int J Dent* 2012;2012:376838.
13. Hassona Y, Scully C, Abu Ghosh M, Khoury Z, Jarrar S, Sawair F. Mouth cancer awareness and beliefs among dental patients. *Int Dent J* 2015;65:15-21.
14. Epstein JB, Gorsky M, Cabay RJ, Day T, Gonsalves W. Screening for and diagnosis of oral premalignant lesions and oropharyngeal squamous cell carcinoma: Role of primary care physicians. *Can Fam Physician* 2008;54:870-5.
15. Gopal KS, Duraiselvi P. Awareness and knowledge of oral cancer among dental patients: A survey based questionnaire study. *Int J Adv Health Sci* 2014;1:12-5.

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