Original Research Paper

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Dentistry

AWARENESS OF NON-CARIOUS LESIONS AMONG MEDICAL PRACTITIONERS

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ABSTRACT

Aim: This study investigated the knowledge amongst medical practitioners and senior medical students, regarding the clinical forms of tooth wear and its etiology for non-carious cervical lesions.

Material And Methods: A questionnaire was sent electronically using social media. The survey had 10 questions regarding the prevalence of non-carious cervical lesions in the participants, the awareness of their clinical signs and etiological mechanisms.

Results: Most of the medical practitioners were aware of tooth wear and non-carious cervical lesions, although the awareness of their etiology was moderate.

Conclusions: Our study showed the need for awareness among medical practitioners of the etiological mechanisms of tooth wear and non-carious cervical lesions for a better understanding. There is need for motivation among medical practitioners to visit dentist regarding their oral health.

KEYWORDS : tooth wear, non-carious cervical lesions, medical practitioners.

INTRODUCTION

Non-carious cervical lesions (NCCLs) are defined as the loss of dental hard tissue at the cementoenamel junction (CEJ) region without the action of microorganisms or inflammatory processes.[1]

NCCLs have a multifactorial etiology, including mechanical stress (tension), erosion (chemical degradation), and friction. Risk factors such as teeth clenching, premature or eccentric contacts, overbrushing, and acidic beverages intake modulate the evolution of NCCLs according to their intensity, duration, and frequency.

In all events, the high prevalence of NCCLs and their onset at an early age is an important dental health problem that must be addressed, not only with therapeutic measures but also with preventive ones. Patients, and the population in general, should be informed of the different risk factors that may contribute to the onset and progression of these lesions, the clinical consequences and the need for effective prevention.[2]Therefore, this study aimed to determine the awareness of NCCLs in medical practitioners as they often encounter the patients complaining of gastro-oesophageal reflux disease (GERD) which cause sensitive tooth and bruxism leading to temperomandibular joint pain.

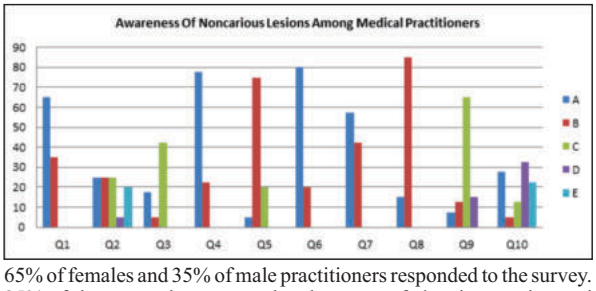
MATERIALS AND METHODS

One hundred and twenty five medical practitioners and senior medical students participated in the study. A structured questionnaire with no open-ended answers was sent electronically using social media, which included questions relating to the awareness of Non carious lesions, technique, force and frequency of toothbrushing, consumption of acidic foods and beverages, gastro-oesophageal reflux and eating disorders, as well as to teeth clenching and grinding.

Questionnaire

1. **What is your gender?**
A. Female
B. Male
2. **Are you aware of non carious lesions which can cause tooth sensitivity?**
A. Abrasion
B. Erosion
C. Attrition
D. Abfraction
E. None of the above
3. **What kind of brushing strokes do you use while brushing your teeth?**
A. Horizontal strokes
B. Vertical strokes
C. Circular strokes
4. **Do you know that aggressive horizontal tooth brushing causes loss of tooth structure(abrasion)?**
A. Yes
B. No
5. **What is your frequency of intake of aerated drinks?**
A. Frequent
B. Occasional
C. No intake
6. **Do you know that frequent intake of aerated drinks can cause loss of tooth structure(erosion) leading to sensitive tooth?**
A. Yes
B. No
7. **Are you aware that gastro intestinal reflux disease can cause tooth erosion?**
A. Yes
B. No
8. **Do you have a night teeth grinding habit(bruxism)?**
A. Yes
B. No
9. **Are you aware that excessive teeth grinding can cause tooth wear (attrition) leading to A. sensitivity and B. pain in Temperomandibular joint**
A. Yes only A
B. Yes only B
C. Both A & b
D. No
10. **Did you ever visit dentist**
A. for carious tooth
B. sensitive tooth
C. painful tooth
D. not visited
E. Other (please specify)

RESULTS



65% of females and 35% of male practitioners responded to the survey. 25% of the respondents were already aware of abrasion erosion and attrition. Only 5% of the participants were aware of the term abfraction. 43% of them were using circular strokes for brushing. 80% were aware that aggressive tooth brushing cause tooth loss. 75% were occasionally having aerated drinks and were aware that frequent intake cause tooth erosion. 57% were aware of Gastro intestinal reflux disease causes tooth erosion. Only 15% marked that they have bruxism. 65% of the participants were aware that teeth grinding causes tooth loss and TMJ pain. Majority of the respondents did not visit dentist till then and most visited for carious tooth and only 5% for sensitive tooth.

DISCUSSION

Today it is accepted that the etiology of non-carious cervical lesions is multifactorial and includes stress, friction and biocorrosion. Grippo and Soares stated that non-carious cervical lesions appear as a result of eccentric occlusal loading, with stress in periodontium and in the cervical area of the tooth.[3]

Till date there is no such survey analyzing the NCCLs awareness in medical practioners. The questions in this survey focused on awareness of noncarious lesions among medical practitioners and did not include treatment modalities.

When asked about the types of tooth wear, the majority of respondents

selected the right answers: erosion, attrition, abrasion. Although a high number of participants selected the basic types of tooth wear, a question regarding the abfraction was asked and only 5% of participants were aware of it.

The theory of abfraction states that occlusal loading forces cause flexure of the tooth, which results in microfractures and loss of tooth tissues in the cervical region.[4]

This shows a moderate level of knowledge of the etiology of forms of tooth wear. A similar question regarding the aggressive tooth brushing causing noncarious cervical lesions was asked and the answers showed a high level of knowledge(78%).

The decrease in pH in the oral cavity resulting from the consumption of acidic foods or drinks or from the presence of intrinsic acids cause the origin of NCCLs. The present study data, 80% of the participants were aware of the influence of exogenous acid consumption in the presence of NCCLs. An acidic environment in the oral can have a strong corrosive action with the ability to dissolve the hard dental tissue. Although it is thought that the acidic environment (erosion) might be the predominant factor in the initiation of NCCLs, the interaction with other risk factors related to toothbrushing or occlusion may aggravate cervical wear.[5]

Pain resulting from one or more parafunctional habits results from the chronicity or frequency and persistence of the practice; the capacity of tissue resistance is often exceeded when the intensity is added to these factors. In addition to these, cognitive factors, anxiety and depression are adjuncts in the cause of temporomandibular joint pain (TMD). Cervical pains, headaches, internal joint disorders, lower degree of buccal opening are frequently reported by patients with parafunctional habits, such as heavy bruxism.[6]

Since NCCLs are the most important factor involved in dentin exposure above the gingival margin, they are also considered one of the predisposing factors for dentin hypersensitivity (DH).[7] DH is a painful condition that occurs when the dentin is exposed to the oral environment, with patent tubules in close proximity to each other.[8]

In addition to promoting loss of tooth structure, erosion has been considered the main etiological factor for DH, because it is capable of opening and enlarging the dentin tubules. Toothbrushing would then act as an adjuvant, by also opening dentinal tubules, but mainly by exacerbating the loss of dentin after erosion, depending on the degree of abrasiveness of the toothpaste. For DH, there was association with aging; presence of NCCLs; premature contacts (in maximum intercuspidation, on the non-working side and in anterior excursive movements); and with frequent consumption of erosive fruit juices. Age, heavy power of toothbrushing, eating fresh fruits with at least one time per day, and the interaction effect of both power of toothbrushing and higher frequencies of eating fresh fruits were predictors of the presence of NCCLs.[9]

When asked regarding visit to the dentist, 22% of the practitioners never visited the dentist and among those visited the common reason for visit was a carious tooth. This shows there is need for awareness and motivation among the medical practitioners regarding oral health.

CONCLUSION:

Our study showed the need for awareness among medical practitioners of the etiological mechanisms of tooth wear and non-carious cervical lesions. There is need for motivation among medical practitioners to visit dentist regarding their oral health.

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