بسم الله الرحمن الرحيم

# "إنما يخشى الله من عباده العلماء"

صدق الله العظيم

سورة فاطر:أيه ٢٨

# Acknowledgment

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# Aim of the Study

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**The present study was undertaken to evaluate clinically and radiographically the role of vitamin C and selenium on the periodontal status of patients with chronic periodontitis.**

# المشرفين


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# Clinical and Radio Densito metric Evaluation of the Influence of Vitamin C and Selenium on the inesting tooth structures in Patients with Chronic Periodontitis

**Thesis *submitted to the Faculty of Oral and Dental Medicine, Cairo University, for partial fulfillment of requirements for Master Degree in Oral Radiology***

**By**

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# التقييم الإكلينيكي والكثافة العظمية لتأثير الفيتامين (ج) والسلينيوم علي اربطة السن لمرضي التهاب الأنسجة الداعمة المزمنة

رسالة مقدمه إلى كلية طب الفم و الاسنان

جامعة القاهرة

كجزء من مقومات الحصول على درجة الماجستير في أشعة الفم


**مقدمه من**

**الطبيب/ محمد متولي سالم**

**بكالوريوس طب الفم وجراحة الاسنان**
**جامعه ٦ أكتوبر**


**٢٠١٤**

# *Dedication*

To dear parents , my guard angel "my sister" and to the soul of my dear bother. Thank you all

# Supervisors


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# Discussion

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## ❖ Justification and Discussion of Methodology

***Periodontitis*** is an inflammatory disease of the tooth supporting structures with a pathological sequel starting by apical migration of junctional epithelium and ending with periodontal ligament, alveolar bone and root cementum destruction **(Dereka et al 2006).** Bacteria invade periodontal tissues causing destruction of connective tissues that support the tooth leading finally to its loss (**Valdez and Berkey 2002 ;Van der Weijden and Timmerman 2002).** Primary prevention of this sequel is crucial and can be achieved through proper treatment.

Scientific evidence is still lacking the determination of cost-effectiveness and patient-perceived quality with regard to the various methods of prevention, diagnosis and treatment of chronic periodontitis.

**Albandar in 2002** stated that chronic periodontitis is a multifactorial disorder and other investigators assured that it is the main cause of tooth loss in adults **(Al-Shammari et al 2005** and **Kaur et al 2009).**

That's why ***chronic periodontitis*** was chosen as the target investigation disease in the current work to throw some light on the pros and cons of some

simple and affordable therapeutic means that could avoid patients suffering from this disease the agony of losing their teeth. It was crucial to explore the basis of treatment of chronic periodontitis.

In the current study, the selected subjects suffered from ***mild to moderate chronic periodontitis*** with average bilateral pockets ≤ 5mm. This choice was based on the fact that pockets deeper than 5 mm require surgical therapy rather than non-surgical therapy(NSPT).This choice is in agreement with **Serino et al 2001** who suggested that in patients with advanced periodontal disease ,surgical therapy was more effective than NSPT in reducing the overall mean probing pocket depth and in eliminating deep pockets **.**

All patients were chosen according to certain ***selection criteria*** to be of the same economic level, and free from any compromised systemic disease as evaluated by the assessment of Dental Modification of the Cornell Medical Index to standardize their systemic condition and to eliminate any factors that might interfere or modify bone metabolism and consequently result in biased results***(*Abramson 1966)**.All patients were free from any systemic conditions and did not receive any medications that might affect the healing of soft tissues or bone.

***Smokers*** were excluded from this study as recommended by **Ryder** in **2007** due to the adverse effects of smoking on a variety of periodontal procedures. He reported that these detrimental effects might occur through the increased levels and/or activity of proteolytic enzymes directed against the structural elements of the periodontium, the elevation of destructive cytokines and/or suppression of the regenerative/reparative functions of the periodontium that were detected in smokers.

***Pregnant females*** were excluded as the change in the hormonal levels that occurs in pregnancy modifies the response of periodontium to treatment as suggested by **Garcia et al 2001.** Moreover, pregnant females should avoid exposure to unnecessary radiation exposure.

Progression of periodontitis can be arrested following proper therapy ***(*Rosling et al 2001*).* Heitz-Mayfield et al in 2002** reported that chronic periodontal diseases can be successfully treated either by non-surgical or surgical mechanical therapy provided that there is adequate plaque control.

Non-surgical periodontal therapy (NSPT) represents the standard approach for the treatment of periodontitis ***(*Cobb 2002*).*** The treatment aims to reduce supra and sub-gingival deposits by mechanical instrumentation of the root surfaces ***(*Derdilopoulou et al**

**2007*).***Consequently, and following these recommendations, ***non-surgical periodontal therapy*** was the initial baseline treatment protocol performed for all investigated cases**.**

After initial examination, all patients participating in the current clinical trial received detailed oral hygiene instructions and full mouth supra and sub-gingival debridement in two sessions using universal curettes with special consideration to the "Langer curettes Mini Five". This modified type of curettes was used to avoid the difficulties encountered during performing mechanical debridement. It facilitates the accessibility of narrow, deep or moderately deep pockets and enhances the effectiveness of sub-gingival debridement as stated and proved by **Landry et al 1999.**

The significance of gingival bleeding indices comprises the reflection of an inflammatory lesion in the connective tissue and being a cardinal sign of gingival inflammation ***(*Greenstein 1984*). Gingival index*** have been used to clinically characterize the degree of gingival inflammation, this in accordance with the study carried out by **Chaves et al 1993.**

According to **Fleiss et al 1991,*CAL*** is thought to be the most accurate way to monitor patients with periodontitis. **Egelberg and Claffey 1994** found that an increase in PD was strongly associated with CAL.