



# The Effects of Poor Dental Knowledge on Oral Health. K. ISON, M. HELWIG\*, P. RETTIG (Indiana University School of Dentistry, Indianapolis, Indiana)

## ABSTRACT

**Objective:** The objective of this clinical case report is to evaluate the effects of low dental knowledge and low socioeconomic status on the oral health of an individual. **Background:** A 32 year old Hispanic male presented to the dental hygiene clinic as a new patient with a negative medical history with the exception of untreated hypertension diagnosed at his last physical examination 5 years earlier. Patient reported smoking 2 to 3 cigarettes a day. Patient had received a prophylaxis 5 years ago in Mexico at a free clinic, but he has never been able to receive regular dental care due to his low socioeconomic status. Patient had limited oral health education prior to his visit to the dental hygiene clinic. **Assessment:** Patient presented with generalized moderate to severe plaque induced marginal and papillary gingivitis as evidenced by red, spongy, rolled gingiva, and a bleeding score of 74%. The periodontal description revealed generalized mild chronic periodontitis as evidenced by 4-5mm CAL and localized moderate chronic periodontitis as evidenced by 6-7mm CAL on #1, #4, #5, #11, #13, #14, and #18. Patient also presented with generalized mild horizontal bone loss on radiographs as evidenced by 2.6mm to 3.5mm measurements from the crest of the alveolar bone to the CEJ. The patient's plaque score ranged from 18% to 26% and generalized moderate to heavy supragingival and subgingival calculus was detected. Active decay was found on #2, #16, #17, #28, and #30. **Dental Hygiene Care Plan:** Patient received scaling and root planing in all four quadrants, a tissue re-evaluation, and extensive oral hygiene instruction. **Results:** At the tissue re-evaluation, the patient's gingival health and probing depths were improved. **Conclusion:** The patient's positive response to treatment is the result of the thorough scaling and root planing therapy, extensive patient education, and patient compliance.

## Introduction

This patient was chosen for this clinical case report due to the uniqueness of the patient suffering from both active periodontal disease as well as active decay on five teeth. The patient's low socioeconomic status and limited oral health education negatively impacted his oral health. The patient had never been taught to floss until he presented to the dental hygiene clinic. The patient was also unaware of obvious decay in his mouth. The patient's lack of access to care and limited education caused the patient's oral health to deteriorate, especially considering he underwent a prophylaxis at a free clinic approximately five years prior.

## Assessment

The patient presented with generalized moderate to severe plaque induced marginal and papillary gingivitis as evidenced by red, spongy, rolled gingiva, and a bleeding score of 74%. The patient also displayed pus when pressure was applied to the gingiva. The patient presented with generalized mild chronic periodontitis as evidenced by 4-5mm CAL and localized moderate chronic periodontitis as evidenced by 6-7mm CAL on #1, #4, #5, #11, #13, #14, and #18. Patient also presented with generalized mild horizontal bone loss as evidenced by 2.6-3.5mm from the crest of the alveolar bone to the CEJ. Generalized moderate to heavy supragingival and subgingival calculus was detected. Active decay was found on #2, #16, #17, #28, and #30. Generalized attrition and hypoplasia were noted. Buccal abrasion was noted on #21. Generalized brown tobacco stain was present.

## DH Care Plan

- Extensive oral hygiene instruction  
Flossing  
Reach flosser
- Full mouth series of radiographs
- Tobacco cessation counseling
- Four quadrants of scaling and root planing therapy
- Periodontal tissue re-evaluation 4-6 weeks later
- Fluoride varnish treatment.
- Local Anesthetic not needed

## Oral Hygiene Instruction

At the initial visit, the patient reported brushing once daily with a manual medium bristle toothbrush. The patient had never flossed and had never been taught how to floss. The patient did not use any mouth rinses. Much time was spent teaching c-shaped flossing. The reach flosser technique was demonstrated to better access the posterior teeth. Patient was also shown an oral irrigator. Patient preferred the use of the reach flosser. Fluoride rinse was recommended to be used at night due to patient's high caries risk. Extensive patient education was done at each visit. Tobacco cessation counseling was also provided. By the tissue re-evaluation, the patient had started brushing twice daily with a manual soft bristle toothbrush and flossing once daily with a reach flosser.

Left side of mouth before treatment



## Evaluation

The patient presented six weeks after his periodontal therapy for a periodontal tissue re-evaluation. The patient presented with generalized mild to moderate plaque induced marginal and papillary gingivitis as evidenced by stippled, dark pink, soft gingiva with dark red bulbous papilla interproximal #22-27 with loose gingiva around the third molars. The patient presented with generalized chronic periodontitis as evidenced by 4-6mm CAL. Probing depths generally improved by 1-2mm or stayed the same. The bleeding score improved from 74% to 26% by the time of the tissue re-evaluation. Patient met the goals of flossing once daily and brushing twice daily. Patient's plaque score improved from 26% to 18%. The periodontal therapy was deemed successful due to improved gingival health and decreased probing depths. No referral to a periodontist was necessary. Patient was referred to oral surgery for extraction of third molars and to a comprehensive care clinic at the Indiana University School of Dentistry for restorations.

Mandibular anterior teeth before treatment



Mandibular anterior teeth after treatment



## Conclusion

Finding ways to effectively educate and motivate patients is important in helping patients improve oral health status. Lack of knowledge regarding oral hygiene habits such as flossing can have a detrimental impact on the periodontium. Asking open ended questions and using active listening to determine knowledge level and motivation level is critical to oral hygiene instruction success. It is important not only to educate patients, but to determine their individual internal motivation factors so that they themselves want to change their habits. People who have never received oral hygiene instruction need patience, guidance, and understanding from dental health providers to improve their habits and oral health.

## REFERENCES

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