Abstract

Background: Preliminary research has shown that only 17% of the adults in the axiUm database at East Carolina’s School of Dental Medicine (ECU SoDM) have a Caries Risk Assessment (CRA) form completed. This assessment form serves as a diagnostic tool for providers to not only to assess risk factors and determine probability of developing a new cavity in the near future and their preventative/operative treatment plan with added beneficial protective factors, but it also heightens patient awareness and knowledge in order to improve and maintain their oral health status. This summer, we investigated if caries risk assessment affects operative treatment decisions at the ECU School of Dental Medicine.

Hypothesis: The percentage of patients deemed to be at high risk for caries according to the CRA is more likely to receive posterior amalgam restorations over posterior composite restorations.

Methods: A retrospective data analysis was completed using a database from patients at ECU SoDM Community Service Learning Centers (CSLCs) from January to July, 2019. Using the clinical data, caries risk status and posterior restorative procedures were tracked longitudinally and then analyzed.

Results: Based on patient risk levels, posterior composite restorations were more frequently used as compared to amalgam restorations in high risk population.

Conclusions: Although several posterior preventative and restorative treatments were looked at, amalgams and composites were most commonly used. Based on the data, patient risk status did not seem to be considered while choosing preventative/operative treatment measures. Several clinical protocols/tools were developed to enhance patient interaction, student/provider communication, faculty calibration as well as compliance overall, in an effort to better serve our patient population in Eastern North Carolina in the future.

Introducion

• Dental caries are considered to be one of the most common chronic diseases facing adults, worldwide.1
• Caries Risk Assessments (CRA) serve as a great tool to get patients involved in their oral health care and facilitates conversations between the provider and the patient for things such as prevention, management, and interventions.
• There are two main type of restorative materials, amalgam and composite. Amalgam restorations have been used for over 100 years. They are the traditional “silver” filling. They are also a more durable, technique sensitive, and economic material when compared to its alternative, resin-composite.

Methods

Using axiUm, the selected patient charts were reviewed and CRA forms completed. The percentage of patients deemed to be at high risk for caries according to the CRA is more likely to receive posterior amalgam restorations over posterior composite restorations. Based on patient risk levels, posterior composite restorations were more frequently used as compared to amalgam restorations. Choice of material was interpreted as not based on caries risk. The data did not support the hypothesis that caries risk is associated with restorative material on posterior teeth. Several clinical protocols/tools were developed to enhance patient interaction, student/provider communication, faculty calibration as well as compliance overall, in an effort to better serve our patient population in Eastern North Carolina in the future.

Results

Graphs 1-8: Completed Posterior Restorations for Each CSLC

Graph 9: All Completed Posterior Restorations Across All CSLCs

Discussion

Based on patient risk levels, composite restorations were more frequently used as compared to amalgam restorations. Choice of material was interpreted as not based on caries risk. The data did not support the hypothesis that caries risk is associated with restorative material on posterior teeth.

Conclusions

• Although several posterior preventative and restorative treatments were looked at, amalgams and composites were most commonly used.
• Based on the data, patient risk status did not seem to be considered while choosing preventative/operative treatment measures.
• So many factors play into choosing restorative materials, however, this pilot study suggests that the CRA status is not a consideration while choosing appropriate restorative material.
• Further studies and research should be done with a bigger sample size.

References