MINIMIZING CARIES RISK IN ADOLESCENT CLIENTS AT SPRINGDALE FAMILY DENTAL

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17. **ABSTRACT**

**II. INTRODUCTION**

1. **Description of caries problem in adolescent clients at Springdale Family Dental**

Dental hygienists are healthcare professionals well known for their striving role in disease prevention and oral health promotion. Dental hygienists employ primary preventive measures so that the dental disease does not occur and is truly prevented. Although dental caries are largely preventable, they remain the most common dental disease in adolescents. (1) At Springdale Family Dental, there is an increased caries incidence noted in the last two years among the adolescent clients population. Despite the preventive treatment interventions in place to minimize caries risk, more and more adolescent clients are assessed with new caries at recare visit. It is increasingly and substantially challenging the disease prevention goal of the dental team at Springdale Office.

1. **Brief background on caries process**

Dental caries is identified as one of the most common chronic disease worldwide. Although it is a multifactorial disease, it is significantly caused by oral bacteria’s interaction with fermentable carbohydrates and host susceptibility factors. (2) Although all individuals are susceptible to caries throughout their lifetime, children and adolescents are at a greater risk due to their high sugar intake and inadequate oral hygiene care. A notably high incidence of caries poses a challenge to the dental team in terms of the effectiveness of their preventive treatment interventions.

1. **Purpose of the Report**

Caries are largely preventable with integration of preventive components and modification of caries risk factors. The purpose of this report is to examine and evaluate all preventive components currently implemented by the dental hygienists at Springdale Family Dental. This will help to modify and introduce new preventive treatment interventions to minimize caries risk in adolescent clients.

1. **Description of Data Sources**

This report has incorporated primary and secondary sources to gather data. The primary sources include surveys of adolescent clients to assess their knowledge level of caries and importance of oral health. It also assesses their oral hygiene routine. Another primary source includes interviews with Dr. Anand, practice owner and the hygienists to assess their knowledge and acceptance of the caries problem, and their willingness and acceptance level in introducing new preventive measures if need be. The secondary data sources include online research articles and relevant journals for supporting the evidence on caries process, risk factors and preventive components.

1. **Scope of Inquiry**

The scope of inquiry will help assess the potential risk factors for caries in adolescent clients at Springdale Family Dental. It will also help to determine the necessity of preventive measures that could substantially minimize the caries incidence. This will aid in formulating recommendations to improve the results and benefit both the clients and the dental team.

**III. DATA SECTION**

1. **Risk factors for caries**
2. Poor nutrition- Inadequate nutrition and increased intake of refined carbohydrates contribute to caries risk. Bacteria in the mouth efficiently assimilate fermentable carbohydrates resulting in acid production thereby causing cavity.
3. Irregular dental visits- Regular dental visits allow for caries assessment and management by dental professionals. Irregular visits affect the proper diagnosis of caries and its risk factors.
4. Poor oral hygiene- The mechanical removal of plaque through proper brushing and flossing is imperative in lowering the bacterial count in the mouth.
5. Poor client compliance for preventive measures- Client compliance is a substantial factor affecting overall effectiveness of interventions from following regular recare to adequate oral self-care, to following dietary counseling guidelines. Without client’s active participation, it is unachievable.
6. Use of limited prevention interventions- Prevention is the key to avert disease. All preventive interventions should be utilized to minimize the caries risk.
7. **Dental Implications of caries**
8. Caries cause pain in the involved teeth.
9. Pain impairs proper chewing leading to inadequate nutrition.
10. Caries can cause unpleasant black or brown staining of teeth leading to poor esthetics.
11. **Other Implications of caries**
12. Low self-esteem in clients due to the conception that poor oral hygiene causes caries.
13. Fear of pain leading to stress and anxiety.
14. Potential distrust on the dental team doubting their knowledge and capacity to prevent and minimize caries.
15. **Survey and Interview Results**

The survey was completed by 20 clients in age range from 11-17 years. The results from survey indicate that a large number of adolescent clients are irregular with their recare visits. Also, only 30% are following adequate brushing and flossing routines. The dental hygienists are providing nutritional counseling and assessing brushing techniques most of the time.

**Figure 1. Survey results from 20 adolescent clients of Springdale Family Dental**

Interview with Dr. Anand disclosed his concern over the increased caries problem among adolescent clients. Dr. Anand had implemented the use of pit and fissure sealants as caries prevention intervention in the past but with little success. The only reason for discontinuation was the chipping and wearing off of sealants much sooner than anticipated. However, Dr. Anand is willing to introduce the newer and much retentive version of the sealants.

Interviews with the dental hygienists also yielded positive results with willingness of the hygienists to implement pit and fissure sealants for caries prevention. Topical fluoride therapy is most effective in smooth surface caries prevention, only pit and fissure sealants can effectively seal the deep pits and grooves of molars and premolars creating a physical barrier (Fig. 2)



**Fig. 2 Sealant acts as a physical barrier**

1. **CONCLUSION**
2. **Summary and interpretation of findings**

The results from survey and interviews conclude that the dental team is optimistic about addressing the caries problem in adolescent clients. Majority of the clients are not following adequate oral hygiene care routine at home and a great number are also irregular with their recare visits lowering the chances of their caries risk assessment and management. This impedes the primary goal of the dental team to prevent and minimize dental disease which includes but is not limited to caries.

1. **Recommendations**

Based on the findings from survey and interviews, it is observed that additional preventive measure(s) are needed to lower the caries risk. A client typically sees the hygienist and dentist twice a year with an increased self-role and responsibility towards oral health. Therefore, it is important to emphasize to clients at every recare appointment the importance of healthy diet that limits refined sugars. The clients should also be reminded the importance of proper and atleast twice daily brushing and flossing. It is also recommended that clients are regularly monitored for their recare interval to ensure that their oral needs are efficiently met. The determinants of caries risk are modifiable and dental team can implement pit and fissure sealants to control the anatomical aspect of risk factor, the deep pits and grooves of molars and premolars. Evidence based research has shown promising success of pit and fissure sealants in preventing and managing caries risk.

1. **References**
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