

Dental Caries: Microbiological Contagious Disease

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INTRODUCTION

Dental caries is an infectious microbiological illness that affects the teeth and causes localised calcified tissue deterioration and breakdown. It is the second most frequent reason for tooth loss and occurs everywhere, regardless of age, sex, caste, creed, or region. Although inheritance obviously has a part to play, it is seen as a disease of civilised society and is linked to lifestyle variables. When it's advanced, it produces excruciating agony, requires expensive treatment, and wastes valuable man hours. But to some extent, it is preventable.

In India, dental caries is common to a range of 50% and 60%.

This multifactorial illness is caused by the interaction of three main causes.

- Host (saliva and teeth).
- Microorganisms in the form of dental plaque.
- Support (diet).

A vulnerable host, cariogenic oral bacteria, and an appropriate substrate must all be present for a significant amount of time in order for caries to develop.

Teeth

- **Enamel's composition:** Elevated caries is linked to a deficiency in fluorine, zinc, lead, and iron.
- **Morphological traits:** Deep, narrow occlusal fissures, as well as lingual and buccal pits, have a tendency to collect germs and food particles that can lead to caries. Caries decreases when tooth wear (attrition) increases.
- **Location:** Dental caries is more likely to occur in the interdental spaces. Crowding, uneven spacing, and other types of dental misalignment can make people more vulnerable to dental caries.

Saliva

On the teeth, saliva has a cleaning function. Saliva production averages 700 ml-800 ml each day. As saliva viscosity rises, caries activity rises as well. Consuming fibrous food and chewing it thoroughly stimulates salivation, which aids in digestion and

enhances tooth cleaning. Dental caries is influenced by saliva's volume, content, pH, viscosity, and buffering ability.

DESCRIPTION

Dental plaque

A thin, persistent microbial film known as dental plaque develops on the surfaces of teeth. The processes involved in the beginning and development of dental caries are caused by microorganisms in the dental plaque fermenting carbohydrates, particularly the disaccharide sucrose, to produce acids that cause demineralization of inorganic materials and supply different proteolytic enzymes to cause disintegration of the organic materials of the teeth. The dental plaque keeps the generated acids in direct touch with the tooth surfaces and keeps them from coming into contact with the saliva's cleansing action.

Treatment

Treatment includes surgical procedures to remove decay and restoration using the appropriate materials, such as porcelain or complete metal crowns, composite resin, gold inlays, or silver fillings. Endodontic therapy may be necessary in severe cases where the tooth pulp is implicated. When endodontic therapy is not possible or when there is significant tooth structural loss, it may be necessary to extract the tooth and replace it with prosthesis.

Preventative measures

- Pit and fissure sealants and fluoride varnish applications, both aid in delaying the onset of caries.
- Restorations that are preventative should be made.
- Dental caries should be treated and prevented using a community-based strategy that includes Atraumatic Restorative Treatment (ART).

CONCLUSION

No matter the age, sex, caste, creed, area, or country, dental caries is the second most common cause of tooth loss. Fluorine,

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zinc, lead, and iron deficiencies are connected to increased caries. People may be more susceptible to dental misalignment because to crowding, irregular spacing, and other factors. Saliva's volume, composition, pH, viscosity, and buffering capacity all

affect dental caries. Consuming fibrous food and completely chewing it causes salivation, which improves tooth cleaning and aids in digestion? Fluoride varnish and pit and fissure sealants can help postpone the development of tooth cavities.