

MAY : 2025, VOL : 07, ISSUE : 05

# V-Discover

THE STUDENTS  
DIGITAL MAGAZINE

THEME : DENTAL CARE



## SWAMY VIVEKANANDHA COLLEGE OF PHARMACY

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## DENTAL CARE

### INTRODUCTION



Dental care refers to the practices and habits you follow to maintain the health of your teeth, gums, and mouth. It involves a combination of daily hygiene, regular check-ups, and preventive measures to avoid dental problems like cavities, gum disease, and tooth decay. Good dental care not only keeps your teeth looking great but also contributes to your overall health and well-being.

### INTRODUCTION

#### 1. Brushing:

o Brushing your teeth with fluoride toothpaste at least twice a day is one of the most fundamental practices for keeping your teeth clean and free from plaque, a sticky film of bacteria that can lead to cavities and gum disease.

#### 2. Flossing:

o Flossing helps remove food particles and plaque between your teeth that a toothbrush can't reach, which is important for preventing cavities and gum disease.

#### 3. Mouthwash:

o Using an antiseptic mouthwash can help reduce plaque, freshen your breath, and in some cases, prevent gum disease.

#### 4. Regular Dentist Visits:

o Going to the dentist every 6-12 months for check-ups and professional cleanings is essential. Dentists can spot early signs of issues like cavities, gum disease, or oral cancers, and provide treatments or preventive care to address them before they worsen.

#### 5. Diet and Lifestyle:

o Eating a balanced diet and avoiding sugary foods and drinks can help prevent tooth decay. Avoiding tobacco and limiting alcohol can also reduce the risk of gum disease and oral cancer.

### HISTORY OF DENTAL CARE

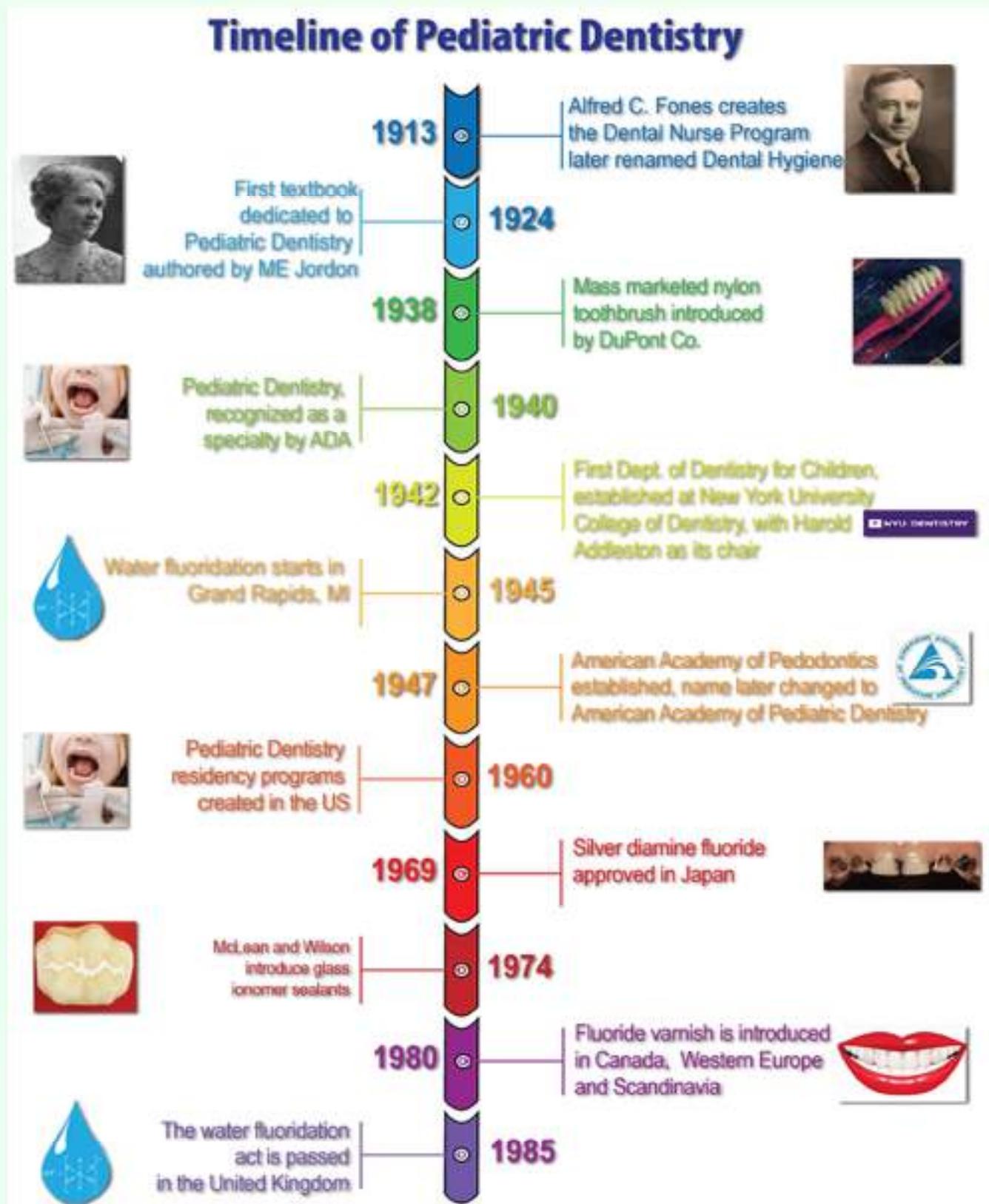
*Ancient Egypt:* The first known records of dental care come from the ancient Egyptians. They used a form of toothpaste made from crushed pumice, vinegar, and powdered herbs. They also created dental tools like drills made of copper or bronze.

*Hippocrates (460–370 BCE):* Often called the "Father of Medicine," Hippocrates wrote about tooth care in his medical texts, mentioning remedies for toothaches and gum issues. He is also believed to have recognized the connection between diet and oral health.

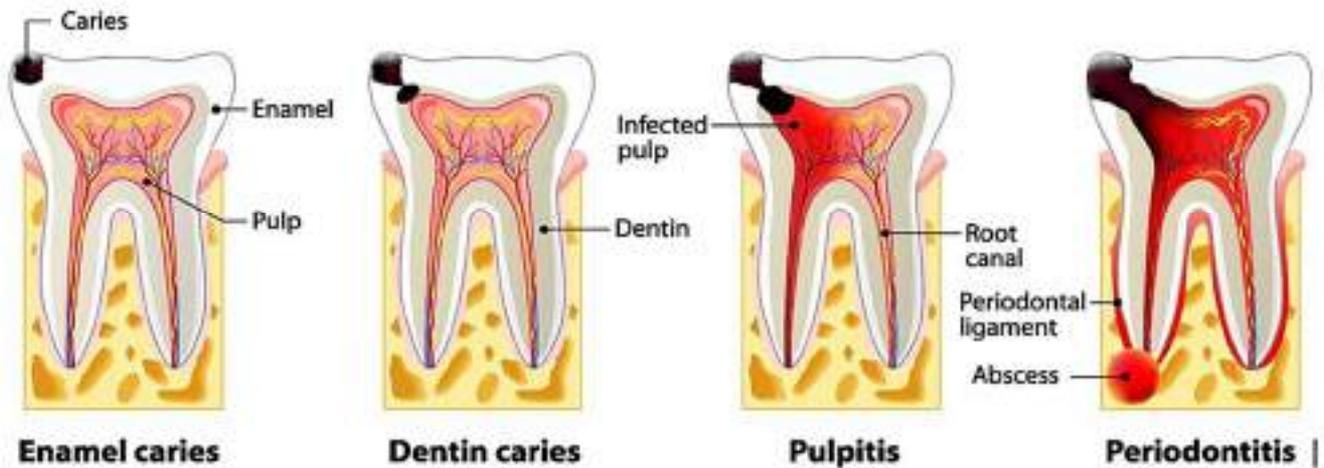
*Ancient Romans:* Romans were among the first to use dental instruments like forceps for extracting teeth. They also believed in the importance of mouth hygiene, with some using mixtures of vinegar, salt, and other ingredients to clean teeth.

*The Etruscans (800 BCE – 400 BCE):* Known for creating the first known dental prosthetics, they used gold wire to secure replacement teeth into the mouth. They also used dentures made from human and animal teeth.

Timeline of Pediatric Dentistry – based, in part on the timeline at the American Academy of Pediatric Dentistry.

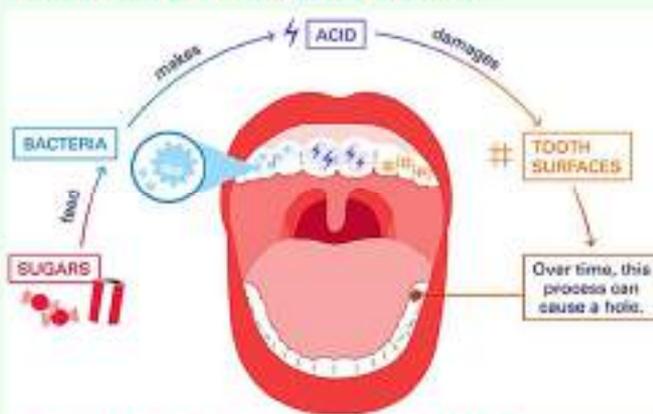


# THE STAGES OF CARIES DEVELOPMENT



Tooth decay is a major oral health problem in most industrialised countries, affecting 60–90% of school-children and the vast majority of adults. By the age of 15, 75% of Irish children suffer from tooth decay.

## CAUSES OF DENTAL CARIES



There are different types of filling materials that can be used, depending on the area where caries have occurred. Composite resin, the most common filling material in the developed world, has a great pallet of color which dentists can use to repair caries damage to teeth that are visible when you smile. In the case of back teeth cavities some dentists prefer using other dental filling materials which are stronger.

## DENTAL CARIES TREATMENTS

There are four main ways to deal with dental caries. These treatments carried out by a dental professional can help treat damage incurred from dental caries.

**Fillings:** Fillings are the most common form of treatment for the disease. A dentist drills into the affected area/s of the teeth, removes the decayed material inside the prepared cavity, and packs this empty space with an appropriate dental filling material.



**Crowns:** Crowns are another option for dentists when treating dental caries, and are only used when a large proportion of the tooth is destroyed by disease. When tooth decay leads to the need for large fillings, the tooth becomes more prone to cracks and ultimately breaking. The dentist would attempt to salvage the remaining tooth, repair it, and finally fit the tooth with an alloy or porcelain crown covering.



**Root Canal:** Another method of treatment a dentist may employ is called a root canal. As tooth decay progresses through the enamel and settles in the center of the tooth, it may even advance further and damage the nerves, which are in the root. A dentist would remove the damaged or dead nerve with the surrounding blood vessel tissue (pulp) and fill the area. The procedure usually ends with the dentist placing a crown over the affected area.



**Extraction:** In some cases, the tooth may be damaged beyond repair and must be extracted if there is risk of infection spreading to the jaw bone.

The removal of some teeth may affect the alignment of those left in the mouth, so it is recommended that a partial denture, bridge, or implant be inserted in those edentulous areas.

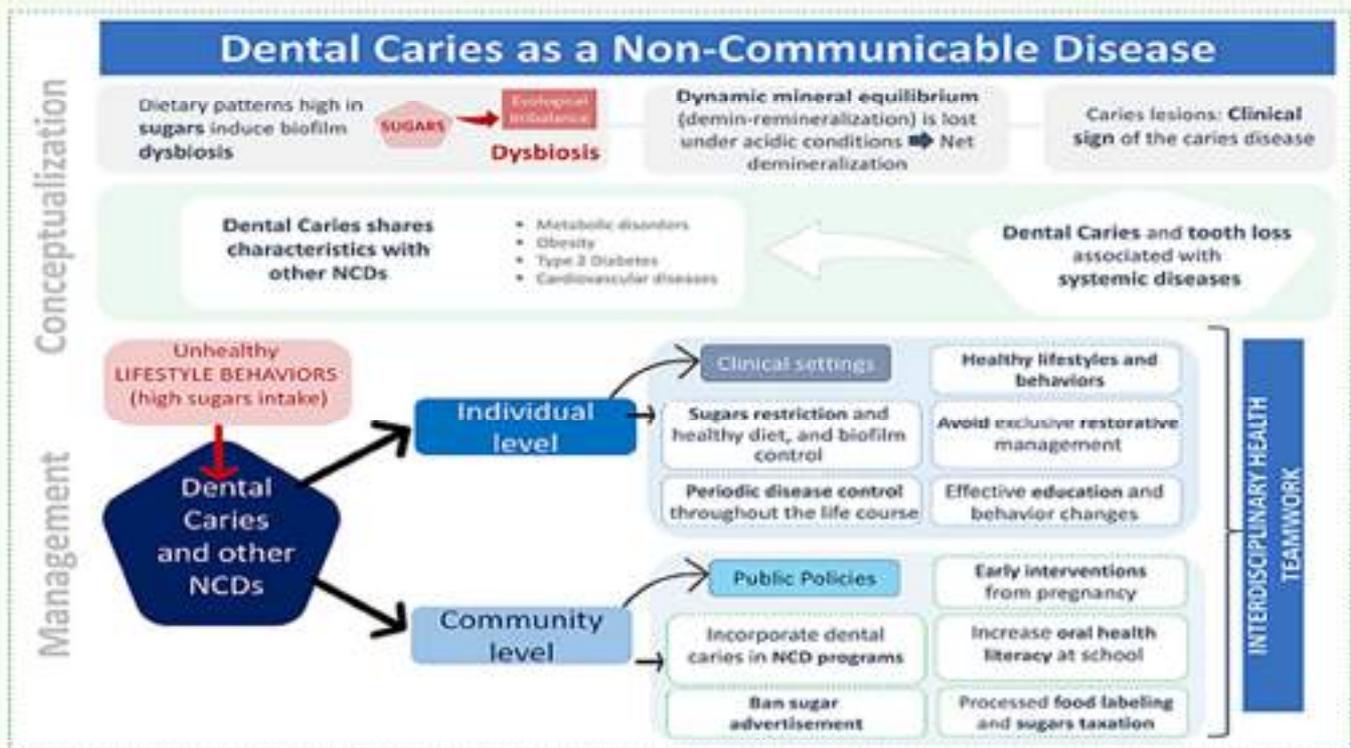


## MEDICAL MANAGEMENT OF DENTAL CARIES

Primary Care	Secondary Care	Tertiary Care
<b>Prevention</b>	<b>Use of Pharmaceuticals</b>	<b>Limit extent of lesion + Surgical Intervention</b>
<ul style="list-style-type: none"> <li>Fluoride exposure</li> <li>OHI</li> <li>Diet counseling</li> </ul>	<ul style="list-style-type: none"> <li>5000ppm fluoride toothpaste</li> <li>SDF</li> </ul>	<ul style="list-style-type: none"> <li>Restorations</li> <li>Extractions</li> </ul>

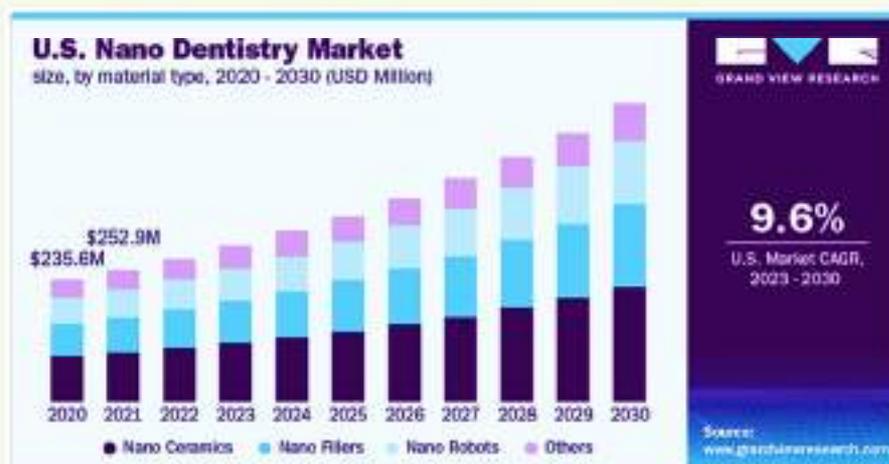
## DENTAL CARIES AS NON COMMUNICABLE DISEASE

Dental caries must be considered non-communicable, associated with a dysbiosis of the dental biofilm and caused by free sugars exposure, but strongly linked to deleterious lifestyles and behaviors, mainly related to inappropriate dietary patterns. Modern management of the disease, therefore, should comprise acting at the individual and the community levels, incorporating caries among the public health policy for NCDs

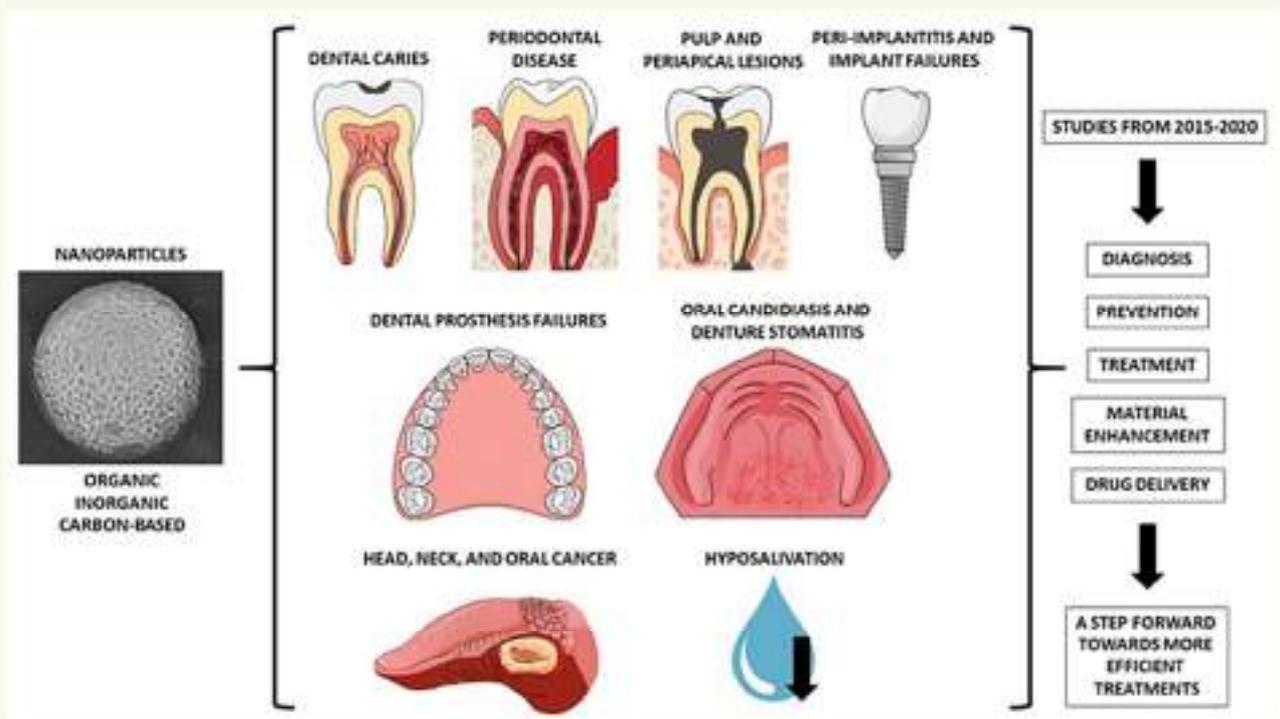


## NANO DENTISTRY MARKET SIZE

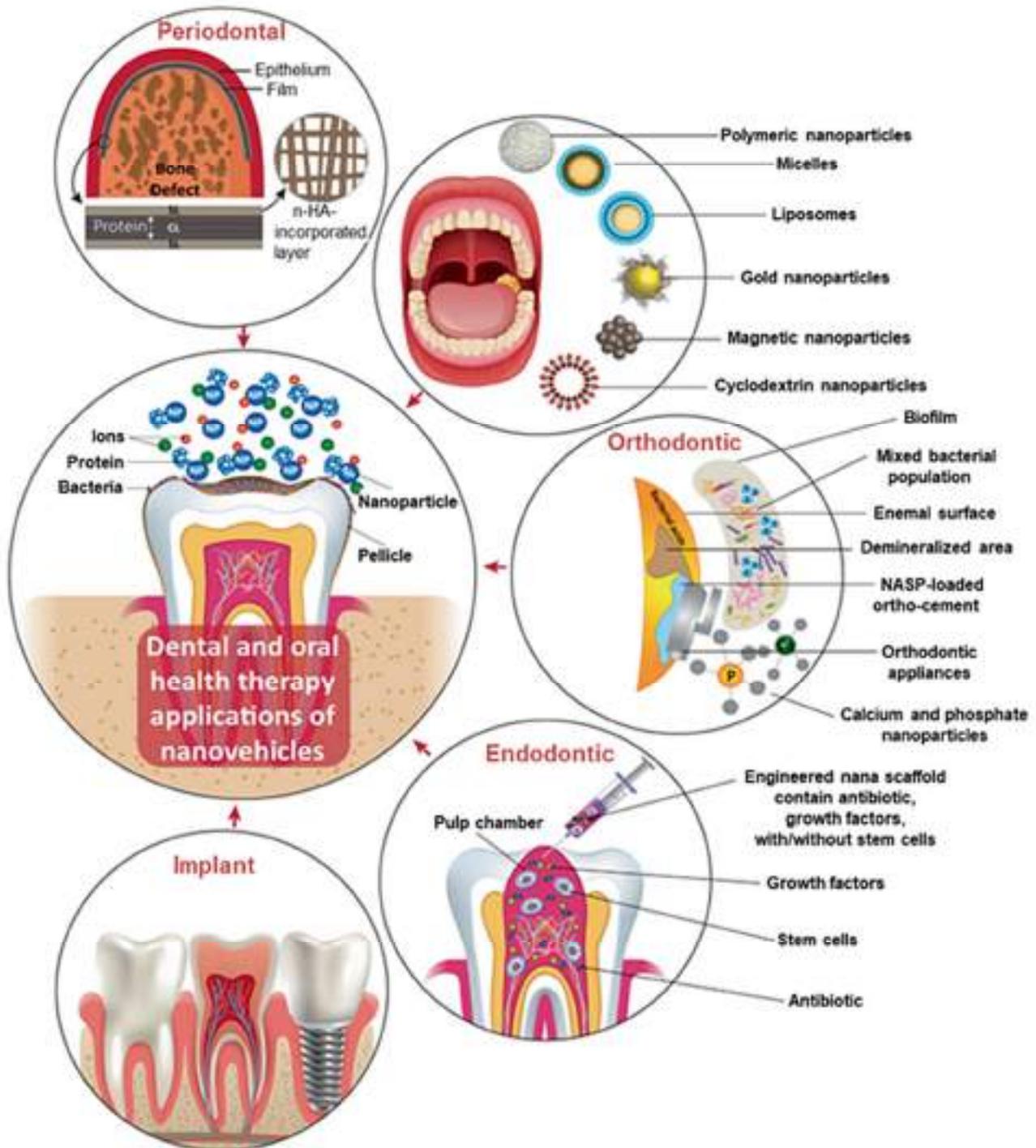
The global nano dentistry market size was valued at USD 838.53 million in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 10.2% from 2023 to 2030. The rising dental diseases, increasing demand for nano dentistry products, increasing oral hygiene awareness, and rising adoption of advanced dental technology are the driving factors for the market.



## NANOPARTICLES IN DENTISTRY



## NANOPARTICLES IN DENTISTRY



**SELF MANAGEMENT FOR DENTAL CARIES**

**Caries Self-Management Menu of Options**

**PROTECTIVE FACTORS**



Use an antibacterial mouthrinse/ fluoride mouthwash



When possible, drink fluoridated tap water or fluoridated bottled water



2tsp baking soda in 8 oz water for buffering



Brush at least 2x daily with a fluoridated toothpaste

**FERMENTABLE CARBOHYDRATE CHANGES**



Reduce frequency of processed starchy snacks



Substitute fermentable carbohydrates with xylitol based products



Reduce frequency of sugary snacks

**SUGAR CONTROL OPTIONS**



Eliminate or reduce frequency of sugar-sweetened beverages; limit to meal time if at all



Promote consumption of whole fruit instead of juice, exercise portion control and limit juice to meal time if at all



Read labels for sugar content

**ORAL HEALTH LIFESTYLE REINFORCEMENTS**



Daily plaque removal. Use fluoridated toothpaste



Keep all oral health appointments

**GOALS TO-GO**

Goal 1: How important it is \_\_\_\_ (1-10) How likely to accomplish it \_\_\_\_ (1-10)

Goal 2: How important it is \_\_\_\_ (1-10) How likely to accomplish it \_\_\_\_ (1-10)



# KRISHNAA INSTITUTE OF SKILL DEVELOPMENT & ENTREPRENEURSHIP

(A Unit of VIEMS)

(Affiliated to National Council for Vocational Research Training, New Delhi)

Tiruchengode - 637 205, Namakkal (Dt).



## SKILL DEVELOPMENT COURSES

- **Research Training**
- **Industrial Robotics**
- **Innovation & Women Entrepreneurship Development Program(EDP)**
- **Entrepreneurship Development Program on Food Processing & Agriculture Export**
- **Entrepreneurship Development Program on Textile Sector & Fashion Boutique Business**
- **Entrepreneurship Development Program on Dairy Products**
- **Export - Import Management and Procedure**
- **Digital Marketing and Social Media Marketing with AI tools**
- **Start Your E-Commerce Business**
- **Electric Vehicle (EV) Charging Stations**
- **Cyber Security & Ethical Hacking**
- **Six Sigma (Yellow Belt)**
- **Machine Learning and Data Analytics with Python**
- **Blockchain Technology**
- **Artificial Intelligence**
- **Computer hardware & Networking**
- **Embedded System, Java, VLSI**

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