

MARKET ACCESSMENT OF DENTAL PRODUCTS USED IN DENTAL FLUROSIS

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FLOW OF PRESENTATION

- Research Objective
- Research Methodology
- Introduction
- Fluorosis, Sources, Types & Market of Dental flurosis products
- Sample collection of ground water to determine Fluoride level in the targeted area and its results
- Conclusion and recommendations

RESEARCH OBJECTIVES

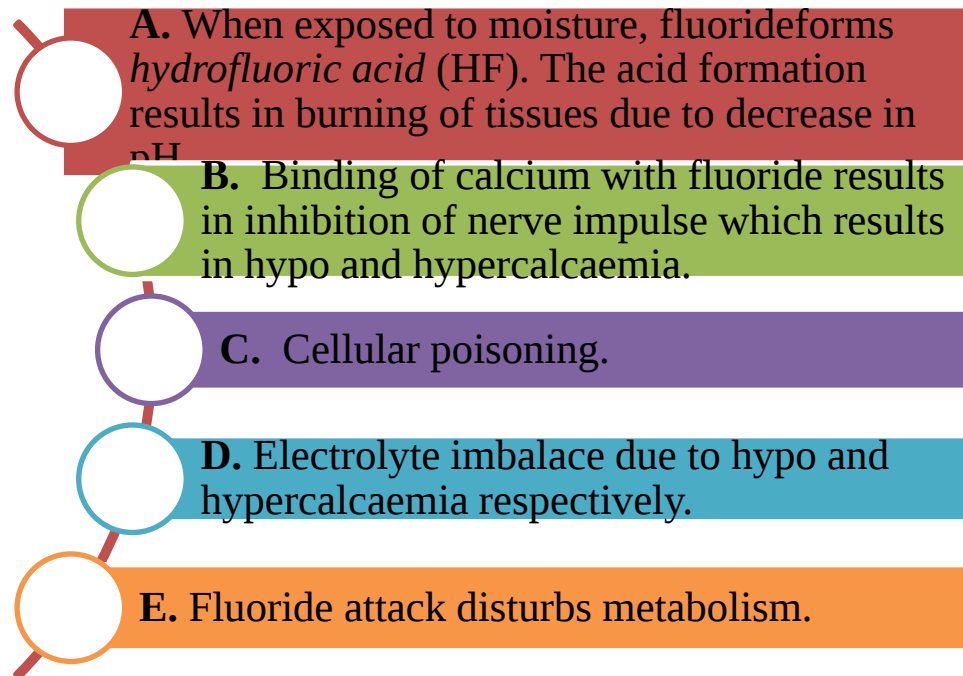
- To investigate market size of dental products used in Dental Fluorosis
- To know about fluorosis in India
- To discuss the sales of various Dental products used in different Defluoridation process
- To examine the fluoride level in ground water in Bhilwara district

RESEARCH METHODOLOGY

- Groundwater samples from the villages will collect and transported to the laboratory in polypropylene bottles with necessary precautions (Brown et al., 1974). Estimation of fluoride will be done by Ion selective electrode method. All the chemicals used will be of Anal. R. Grade.
- Study of Pharmaceutical market of Dental fluorisis

INTRODUCTION

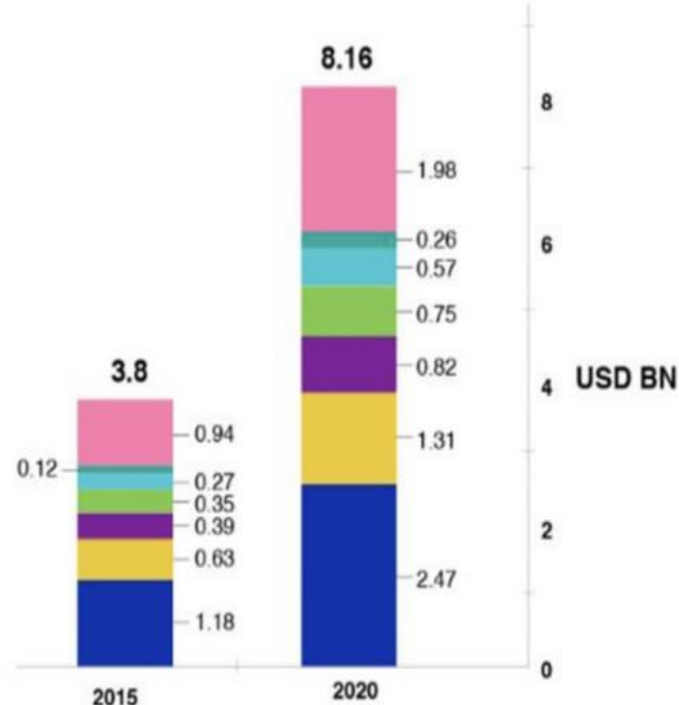
- Fluorosis is a crippling disease resulted from deposition of fluorides in the hard and soft tissues of body. It is a public health problem caused by excess intake of fluoride through drinking water/food products/industrial pollutants over a long period. Ingestion of excess fluoride, most commonly in drinking-water affects the teeth and bones.



Flurosis, sources and types, market of Dental Flurosis products

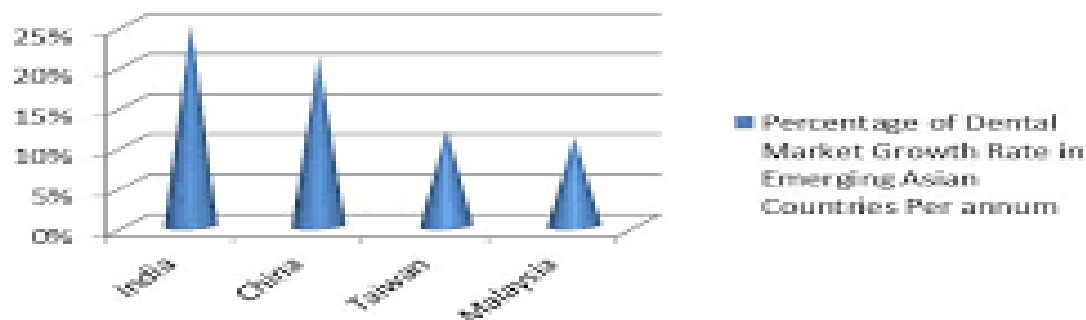
- Sources- air, water, soil, drugs, toothpastes mouth rinses and food
- When the developing tooth is exposed to fluoride, it results in mineralisation leading to a state which is termed as fluorosis. The enamel which is affected by fluorosis has an altered structure, which degrades on further exposure to fluoride
- Types of Flurosis- Dental, Skeletal and crippling

- Diagnostic Imaging
- Consumables
- IV Diagnostics
- Patient Aids
- Orthos and Prosthetics
- Dental Products
- Others (Patient Monitor, ECG, Oxygenators etc.)

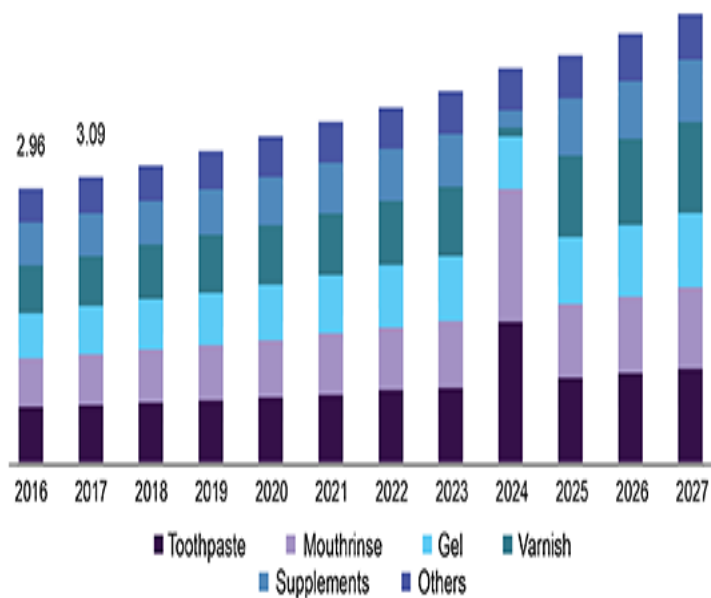


Segment wise Market share of Medical devices
11

Percentage of Dental Market Growth Rate in Emerging Asian Countries Per annum



U.S. dental fluoride treatment market size, by product, 2016 - 2027 (USD Billion)

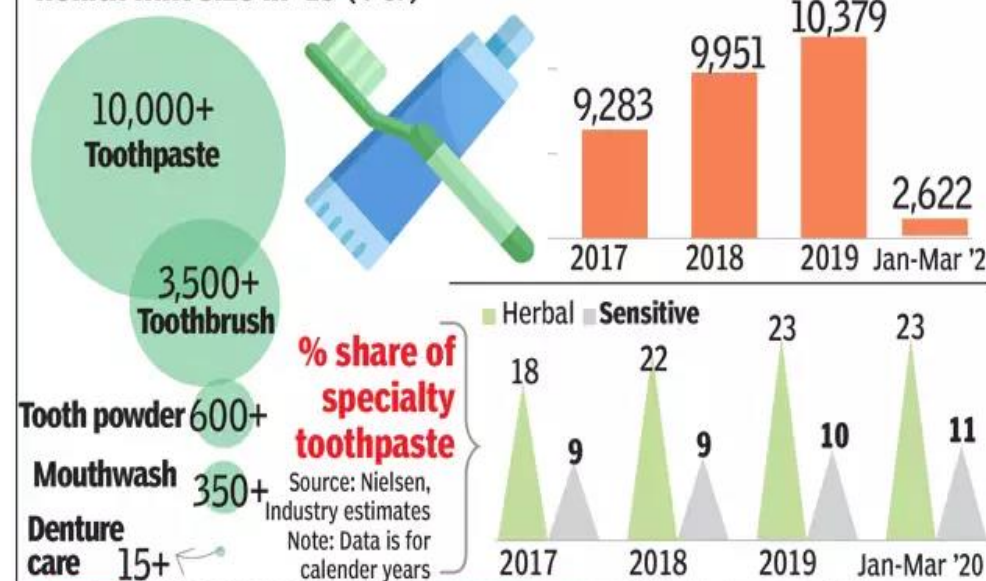


Source: www.grandviewresearch.com

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India's toothpaste market (₹ cr)



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Sample collection of ground water in the area and its results

- Groundwater samples of 121 villages located in Bhilwara tehsil of Bhilwara district were
- collected in pre cleaned polythene bottles with necessary precautions 21 . The samples were
- brought to the laboratory and fluoride concentration was determined by Ion selective electrode method . All the chemicals used will be of Anal. R. Grade.
- A general observation was also conducted with respect to incidence of dental and skeleton fluorosis.

Conclusion and Recommendations

- Dental and skeletal fluorosis survey was carried out in Hurnia village of Bhilwara tehsil.
- This village was found to have fluoride concentration above 5.8 mg/l in groundwater. The entire sources present in the village were examined for fluoride concentration and found between 3.1 and 5.8 mg/l with a mean value of 4.27.
- Total 142 individual of different age group were examined for dental and skeletal fluorosis as per classified by Dean's 1942(for dental fluorosis)
- Data indicate that only 4 individual (2.82%) do not have dental fluorosis and 11 individual (7.75%) have questionable type of dental fluorosis.
- High percentage individuals are positive to dental fluorosis. The maximum individuals were found to be suffered by mild (34.51% or 49 individuals) and moderate (31.69% or 45 individuals).
- The severe dental fluorosis was recorded in only 16 individuals (11.27%). The dental; fluorosis characterized by light yellow to brown black horizontal lines on teeth surface edges chipped of edges.

Parameters	Below 1.0 mg/l	Above 1.0 & Below 1.51 mg/l	Above 1.5 & Below 3.01 mg/l	Above 3.0 & Below 5.01 mg/l	Above 5.0 mg/l	Total
No of Village	52	30	31	6	2	121
% Village	43%	25%	26%	5%	2%	100%
Population	46581	26662	31346	6008	901	111498
% Population.	42%	24%	28%	5%	1%	100%

- 104 individuals having age above 21 years were examined for skeletal fluorosis prevalence.
- From the figure it is clear that 38 individuals (36.54%) do not have skeletal fluorosis.
- In the skeletal fluorosis positive 66 individuals maximum 36.54% have grade I skeletal fluorosis, which is characterized by bone and joint pain.
- The grade II skeletal fluorosis was recorded in 28 individuals (26.92), which generalized bone and joint pain, stiffness and rigidity of dorso lumbe spine and restricted movement at spine and joints.
- No individual was found to have grade III type of skeletal fluorosis.

- Fluoride mitigation and using dental products based on pharmaceutical market trend of a dental products
- Using Water harvesting systems
- Change in dietary habits Of people in the sample area
- Implementing suggestive Defluoridation techniques

THANK YOU