

Assessment of Factors That Affect the Selection of a Dentifrice Among a Population of Arts and Commerce Undergraduate Students in West Zone of Ahmedabad: A Questionnaire Survey

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1 Assessment of Factors That Affect the Selection of a Dentifrice Among a Population of Arts and Commerce Undergraduate Students in West Zone of Ahmedabad: A Questionnaire Survey.

ABSTRACT

5 OBJECTIVE: This study aimed to examine the factors influencing dentifrice selection and to explore these considerations.

3 MATERIALS AND METHODS: This cross-sectional study was conducted on undergraduate students of five Arts and commerce college present in west zone of Ahmedabad, Gujarat, India. The IRB approved study was conducted through 17 validated questionnaires sent to the participants through email after obtaining their informed consent. Results were tabulated and presented in percentage (%).

RESULTS:

The most important factor which the study population consider were freshness, anti-decay, calcium content, teeth-whitening agent and desensitizing agent. The least important factors were celebrity influence, flavour, gel-based population, discount and packaging of the dentifrice.

CONCLUSION: Seminars and webinars should be conducted which will enlighten the population to select dentifrice according to their needs and impart them knowledge regarding its content, benefits and potential side effects.

INTRODUCTION

Periodontal diseases develop due to ¹infection and inflammation of the gums and the bone supporting the teeth. Despite being the most prevalent oral health issues, they are often overlooked. The build-up of bacterial plaque is the main cause;(1) highlighting the importance of preventing its accumulation as the foundation of oral hygiene practices.

Bacterial plaque is the main cause of periodontal disease, so preventing its accumulation is crucial for oral hygiene.Using a toothbrush and toothpaste remains the primary and most effective method for controlling plaque above the gum line. Toothpaste aids in reducing plaque build-up;(2) preventing cavities;(3) removing stains;(4,5) whitening teeth;(6) eliminating food particles, and refreshing the mouth (7). Despite the availability of various toothpaste options, the rationale behind choosing a specific product is often unclear. Factors such as increased awareness of oral hygiene, exposure to information, advertising, recommendations, lifestyle, and ¹financial status influence dentifrice selection. Studies analyzing the brand preferences of Indian consumers for toothpaste have been conducted as part of management research¹ (8). However, there is limited literature on the factors individuals consider when choosing a product. Therefore, the aim of this study was to assess the factors individuals take into account when selecting a dentifrice.

Material and Methods:

Following approval from the Institutional Review Board at AMC Dental College, Ahmedabad, a study was conducted via an online survey in March to June 2023. 452 students from 5 Arts and Commerce colleges responded with informed consent. The online validated questionnaire was distributed to students through social networking platforms. The results were tabulated and presented as percentages.

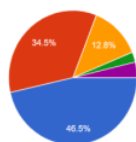
Questionnaire design

17 closed-ended questionnaires were prepared in English language. Apart from demographics, questions regarding factors that affect the selection of dentifrices such as flavour, colour, well-known/established brand, highest quantity/price ratio, packaging, healthy to gums and teeth, freshness, anti-decay, teeth-whitening, fluoride content, desensitizing, calcium content, herbal content, peer influence, discount, formulation and purchase based on celebrity influence were asked. Along with the informed consent, participant information sheet was prepared mentioning purpose of study. Collected data were entered in computer software for analysis. Percentages were calculated individually for each section to determine the frequency of the responses. Results were calculated and compared for each section.

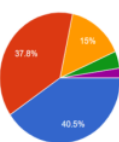
RESULTS:

All 452 responses were received in English language. Age of students were ranging from 18 to 24 years. Demographic data showed that majority of participants were female 284 (62.8%)

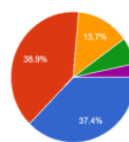
compared to male 168 (37.2%), 48 students (10.6%) was of age 18-19 years, 76 students (16.8%) were of age 19-20 years, 103 students (22.8%) was of age 20-21 years, 74 students (16.4%) was of age 21-22 years, 79 students (17.5%) was of age 22-23 years, 72 students (15.9%) were of age 23-24 years. The factors which under-graduate students consider before purchasing dentifrice is mentioned in the pie-chart. Majority of students were considering freshness (81%) as the important factor in their toothpaste. It was followed by anti-decay property (78.3%), calcium content (76.3%), teeth whitening properties (76.1%) and desensitizing agent (75.9%). 74.8% believes that their dentifrice should be healthy to gums and teeth whereas 73.4% purchases dentifrice which is of fairly well known or established brand rather than unheard brand. 73% and 69.7% believes that their dentifrice should contain fluoride and herbal content. Highest quantity/ price ratio was important to 67% of study population whereas 66.6% of population purchases dentifrices under influence of their family and friends. Colour and packaging of dentifrices was important to 65.5% and 65.3%. 65% of study population opt to buy dentifrice which is on discount. Gel-based formulation and flavour of dentifrices was important to 61.7% and lastly, 55.4% of study population purchases dentifrice based on celebrity influence.



Strongly agree
Agree
Neutral
Disagree
Strongly disagree



Strongly agree
Agree
Neutral
Disagree
Strongly disagree



Strongly agree
Agree
Neutral
Disagree
Strongly disagree

CHART 1

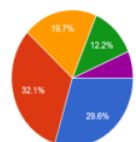
CONSIDER FRESHNESS OF TOOTHPASTE.

CHART 2

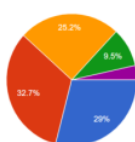
LOOK FOR TOOTHPASTE WHICH CLAIMS TO PREVENT DECAY.

CHART 3

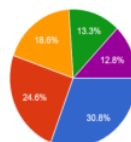
LOOKING FOR CALCIUM OF TOOTHPASTE.



Strongly agree
Agree
Neutral
Disagree
Strongly disagree



Strongly agree
Agree
Neutral
Disagree
Strongly disagree



Strongly agree
Agree
Neutral
Disagree
Strongly disagree

CHART 4

CONSIDER GEL BASED FORMULATION.

CHART 5

LOOKING FOR FLAVOUR OF TOOTHPASTE.

CHART 6

PURCHASE IS BASED ON CELEBRITY ADVERTISEMENT.

DISCUSSION: Dentifrices are substances used with a toothbrush to clean and polish natural teeth. They come in various forms, including paste, powder, gel, and liquid. Among these, toothpaste is the most commonly recommended by dentists and is typically paired with a toothbrush for effective oral hygiene.[9]

The recognition that mechanical tooth cleaning with a dentifrice is an essential part of daily routines underscores its importance as a regularly purchased item. Our curiosity about people's mindsets and the factors influencing their choice of dentifrice prompted us to undertake this study. This findings of this study were similar to that conducted in Mangalore[10] in which the participants were more influenced by branding, highest price/quantity ratio, flavour, packaging and celebrity advertisements. The findings in the present study were in contrast with the study done in Lagos teaching hospital, where the least consideration were given to cost, fluoride, anti-decay and peer influence[11]. This study had included young generation which influences people of all the ages. Also, the students were not related to dentistry so this study had given insight regarding the factors which were important for general population. Individuals in the health-care sector are already aware about the factors which they should consider before purchasing the dentifrice. However, awareness and knowledge is still required for general population. Based on the data, we have found that more than 50% of population still purchases dentifrices under peer and celebrity influence rather than knowing the content of dentifrice and their actual need. Also, more emphasis were given on colour, flavour and packaging of the toothpaste which should not be there.

CONCLUSION: Every individual should know that they have different needs and selection should be done which is advisable for them and not to fall for marketing gimmick. Also, this study will be beneficial for the dentifrices manufacturer, it will give idea regarding the requirements and need of the population. Seminars and webinars should be conducted which will enlighten the population to select dentifrice according to their needs and impart them knowledge regarding its content, benefits and potential side effects.

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