

## Need vs Utilization Patterns towards Preventive Dentistry Procedures among Young Adolescents

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### ABSTRACT

**Introduction:** In comparison to general health, our culture places a lower priority on dental health. In the past, there was a lack of public recognition of oral health decline and widespread acceptance of diseased mouths, as well as broad occurrence of oral disorders and a lack of affordable oral health-care services.

**Objective:** The aim of the study is to find the need and utilization of patterns towards preventive dentistry procedures-age wise comparison.

**Materials and method:** It is a single centered, retrospective study. The data was collected from the patient record management system used at Private dental college from April 2020 to February 2021. A total of 4610 patient details was obtained from the patient record management system used in private dental college out of which 1665 patients of age 18-25 who underwent preventive dentistry procedures such as topical fluoride gel application and preventive resin restoration were included in final analysis. The data analysis was performed using SPSS software and a chi square test was done.

**Result:** The study results showed that out of 4610 patients only 33.08% of patients utilized the preventive dentistry procedures and 66.92% patients were in need of preventive dentistry procedures. It was also observed that males were in more need of preventive dentistry procedures compared to females. P value was 0.01 which was statistically significant.

**Conclusion:** Within the study limits, it is concluded that there is no proper use of preventive dental procedures among young adolescents and there is increased risk of caries among all the age groups included in this study. Continued efforts are needed to improve oral health care utilization by young adolescents.

**Key words:** Preventive dentistry procedures; utilisation; need; young adolescents; innovative analysis.

**HOW TO CITE THIS ARTICLE:** D. Sri Sakthi, Inchara. R, Need vs Utilization Patterns towards Preventive Dentistry Procedures among Young Adolescents, J Res Med Dent Sci, 2022, 10 (S1):05-09.

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**Received:** 24-Feb-2022, Manuscript No.: JRMDS-22-55473

**Editor assigned:-** 26-Feb-2022, PreQC No. JRMDS-22-55473(PQ)

**Reviewed:-** 10-Mar-2022, QC No. JRMDS-22-55473(Q)

**Revised:-** 15-Mar-2022, Manuscript No.: JRMDS-22-55473(R)

**Published:-** 30-Mar-2022.

### INTRODUCTION

Oral health is vital to the general health and well-being of all. The mouth reflects a person's health and well-being throughout life. Oral diseases can have an impact on many aspects of general health and health conditions can in turn have an impact on oral health [1]. Oral and other diseases also share common risk factors. Because the risk of chronic conditions increases

with age, it is important to examine the interplay of these diseases with oral disease, and their combined impact on overall health among older adults. Poor oral health can limit food choices and diminish the pleasures of eating. Studies indicate that extensive tooth loss impairs chewing efficiency [2]. Because having 20 teeth is considered necessary for functional dentition and chewing with removable dentures is at least 30% to 40% less efficient than chewing with natural teeth, 6 persons with extensive or complete tooth loss are more likely to substitute easier-to-chew foods such as those rich in saturated fats and cholesterol for foods high in carotenes, vitamin C, and fiber [3]. Among older persons, tooth loss has been shown to be associated with both weight loss and obesity [4].

Poor oral health is largely preventable a meta-analysis found that fluorides, whether self-applied (i.e., toothpaste), professionally applied, or delivered through community water systems, reduces coronal

caries incidence in adults by about 25% [5]. Fluorides and antimicrobial varnish (i.e., chlorhexidine-thymol) are also effective in reducing root caries incidence [6]. Effective interventions to prevent and control periodontal disease include scaling and root planing and oral health education on self-care. Increased exposure to fluorides has been a major factor contributing to the decline in edentulism (i.e total tooth loss) over the past 50 years. By 2004, the prevalence of complete tooth loss among those aged 75 years and older had dropped to less than half the 1957 rate-68% versus 31% [7].

As older adults age they may experience difficulties brushing their teeth, which has been shown to be effective in preventing oral disease, and in seeking effective clinical care [8]. For example, institutionalized and homebound elderly for whom self-care may be especially difficult have poorer oral health than active elderly [9]. Low utilization of dental care may also be attributable to lack of perceived need. Among adults with similar clinical dental health status, older adults report less need for dental care than do younger adults. Perceived need is an important predictor of dental utilization-a multivariate analysis found the best predictor of dental utilization by older adults to be perceived importance of dental care followed by perceived need and number of teeth remaining. The disadvantaged and ethnic minorities are also more likely to report lower perceived need than other older adults with similar clinical status. Our team has extensive knowledge and research experience that has translate into high quality publications [10-29] This study aims at finding the need and utilization of patterns towards preventive dentistry procedures-age wise comparison among Patients visiting private dental college, Chennai.

## MATERIALS AND METHOD

### Study design

Institutional based retrospective study.

### Study setting

Private dental college, Chennai, Tamil Nadu.

### Study size

20,000 patients attending OP at private dental college from April 2020 to February 2021.

### Sampling and scheduling

Data was collected from the patient record management system used in private dental colleges from April 2020 to February 2021.

Find the need and utilization of patterns towards preventive dentistry procedures-age wise comparison.

### Inclusion and Exclusion criteria

Inclusion criteria include patient name, age, chief complaint, Treatment and an Exclusion criterion includes Systemic disease, occupation, Marital status.

### Ethical clearance

Ethical clearance was obtained from the International review board.

### Statistical Analysis

The data analysis was performed using SPSS software (version 23). The chi square test and Pearson correlation was done. The chi square test was used to compare the data and checked for the distributions at 0.05 level of significance for effect of statistical significance.

## RESULTS

The current study results show that out of 4610 patients out of which 2696 were males and 1914 were females. Only 33.08% utilized the preventive dentistry procedures and 66.92% of patients were in need of preventive dentistry procedures (Figure 1).

The patients were divided into 3 groups based on age which included 1464 patients under 18-20 years, 1363

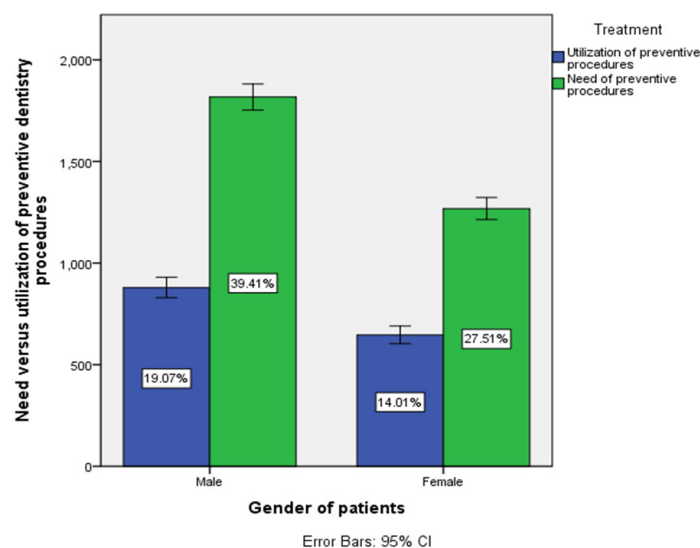


Figure 1: Bar graph depicting the frequency of need versus utilization of preventive dentistry procedures. The x-axis denotes need versus utilization of preventive dentistry procedures and y-axis denotes the number of patients. The blue colour represents the number and percentage of patients who utilized the preventive procedures and green colour represents the number and percentage of patients who were in need of preventive dentistry procedures.

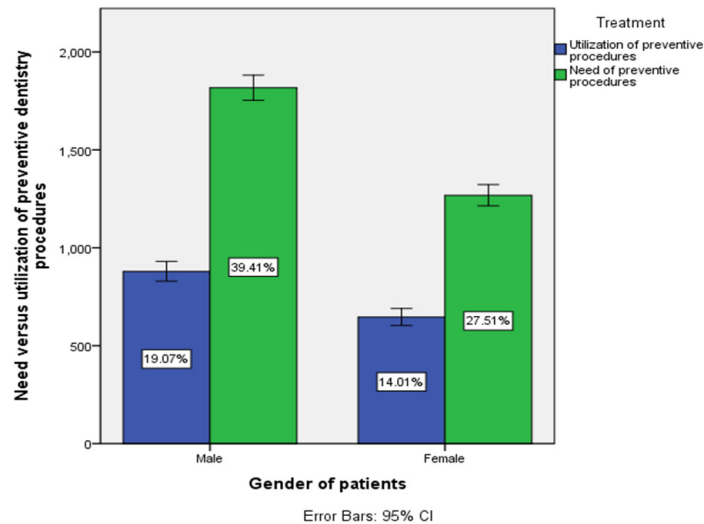


Figure 2: Bar graph depicting the association between age of patients and need versus utilization of preventive dentistry procedures. The x-axis denotes age of patients and y-axis denotes the need versus utilization of preventive dentistry procedures. The blue colour represents the number and percentage of patients who utilized the preventive dentistry procedures and green colour represents the number and percentage of patients who were in need of preventive dentistry procedures.

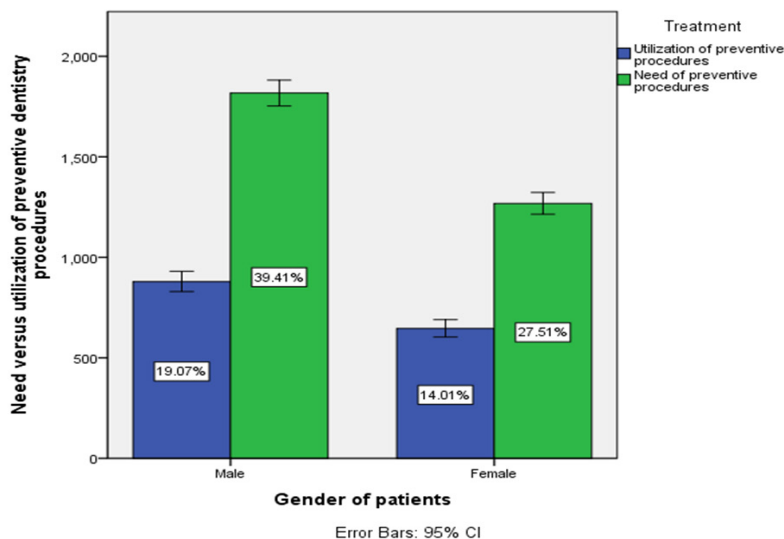


Figure 3: Bar graph depicting the association between gender of patients and need versus utilization of preventive dentistry procedures. The x-axis denotes gender of patients and y-axis denotes the need versus utilization of preventive dentistry procedures. The blue colour represents the number and percentage of patients who utilized the preventive dentistry procedures and green colour represents the number and percentage of patients who were in need of preventive dentistry procedures.

patients under the age group of 21-23 years and 1783 patients under the age group of 24-25 years. Among 18-20 years only 11.48% of them utilized the preventive dentistry procedure and 20.28% of them were in need of preventive dentistry procedures. Among 21-23 years 17.11% utilized and 12.45% were in need of preventive dentistry procedures. Among 24-25 years only 9.15% utilized the preventive dental procedure while 29.52% of them were in need of preventive dentistry procedures (Figure 2).

The current study results also show that among males 39.41% were in need of preventive dentistry procedures and only 19.07% of them had utilized the dental treatment. Among females 27.51% were in need and 14.01% of them utilized the preventive dentistry procedure. The correlation between gender, age and need versus utilization of preventive dentistry

procedures was found to be statistically significant with p value 0.01 (Figure 3).

### DISCUSSION

The majority of dental problems are not self-limiting. Dental problems, if left untreated, can have a negative impact on a person's health and overall quality of life [30]. The best way to save one's own teeth is to practise good oral hygiene at home and visit the dentist once a year. Dental service use can be defined as the annual number of dental visits per person, the proportion of people who visit a dentist in a year, the reported first dental visit within a series of visits, the lack of dental visits within a specific period, aggregate expenditures for dental visits, or the distinction between routine and emergency dental care [30,31].

In the current study the utilization of preventive dentistry procedures was low. This result was consistent with findings from other studies and countries such as China (20%) and Spain (34.3 percent). Dental care consumption is high in wealthy countries such as Denmark (61%), the United Kingdom (47%), Finland (56%), and Singapore (67%) according to a study (43 percent) [32]. The increased consumption in these nations can be attributed to health insurance that includes dental services, which is not available in India. Oral health insurance plans, either at the micro or macro level, should be considered for our people.

In comparison to the older age group, the younger age group went to the dentist more frequently, which was consistent with earlier studies. This could be because the younger age group had greater knowledge and faced fewer obstacles. [33] However, a research from India and other nations found that older dentate persons were more likely than younger adults to visit the dentist on a regular basis.

Females have a higher fear of dental work, according to several studies. This could be one of the reasons why girls in this study had fewer dental visits than guys. This is because the female population is mostly reliant on other family members, and decisions about things like dentist appointments are decided by others [34]. However, other studies show the opposite trend [34-37].

The most common barrier in the multivariate analysis was "there is no need unless pain is present." Other research has confirmed this finding. As a result, we can conclude that patients only saw a dentist if they had symptoms like discomfort or an emergency, as evidenced by the current study. As a result, there is a need to raise oral health knowledge and encourage more positive attitudes in the same demographic [38]. Despite the fact that females had more dental dread than males, they used dental services more frequently than males, presumably because females have a higher expectation of positive outcomes from dental visits.

One of the issues in our country is the cost of dental treatment. It is critical to remove the barrier of high health-care costs by holding free health-care camps, which have proven to be beneficial in disease screening and preventative care [40]. Participants in these camps can also receive a free recommendation if necessary. The health clinics should have a complete oral health setup so that all of the services are available to the rural people in their community and they do not have to travel long distances to receive oral health care [34]. Lack of time was also mentioned as a reason for not seeing a dentist in this survey, as it has been in prior investigations.

### CONCLUSION

Within the study limits it is concluded that, young adults are more prone to caries and there is no proper utilization of preventive dental procedures. And males are more prone to high caries risk compared to females.

Clinical interventions are effective in preventing and controlling tooth decay and regular access to dental care and to preventive services that have the potential to substantially reduce tooth decay might ultimately lead to improved quality of life and performance.

### ACKNOWLEDGEMENT

We would like to thank all the participants who took part in the study. We also thank Saveetha dental college and hospitals for their constant help and support.

### CONFLICT OF INTEREST

All the authors declare that there was no conflict of interest in the present study.

### SOURCE OF FUNDING

The present project is funded by

- Saveetha Institute of Medical and Technical Sciences.
- Saveetha Dental College and Hospitals.
- Saveetha University.
- Rakshith Homes Pvt. Ltd.

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