

# Knowledge, Attitude and Awareness towards Topical Fluorides in Prevention of Dental Caries among Patients Visiting Private Dental Hospital

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## 1. Introduction

Dental caries is an irreversible microbiologic disease that is characterized by demineralization of the inorganic portion and destruction of organic portion of the tooth, leading to cavitation. Increased intake of fermentable sugary food substances, carbohydrates etc., are one of the main etiological factors for dental caries. Poor oral hygiene is also one of the most important predisposing factor for dental caries. Various preventive primary measures for dental caries prevention include pit and fissure sealant, topical fluorides etc., Improving the oral hygiene practices can also be beneficial. Of the preventive primary measure for dental caries, topical fluoride therapy is most commonly used .(1) Fluorides occur naturally in the minerals and earth's crust. By virtue of dissolution fluorides also occur in most springs, wells, seawaters and plants.(2)Despite this natural occurrence, fluorides can be administered both topically as well as systemically.(3)Topical fluoride therapy refers to the use of systems containing relatively large, concentrations of fluoride that area applied locally, or topically, to erupted tooth surfaces to prevent the formation of dental caries.(4).Apart from this beneficial effects, there are also toxicities involved with excessive fluoride intoxication.(5-8).A survey was conducted to assess the knowledge, attitude and awareness regarding this topical fluoride therapy in prevention of dental caries among patients visiting the private dental hospital in Chennai.

### Aim

This survey aims to find out the awareness about the topical fluoride therapies for preventing dental caries among the patients visiting private dental hospitals,

## 2. Material and Methods

The present descriptive study is questionnaire-based cross sectional survey of patients visiting private dental hospital in Chennai City, Tamil Nadu, India carried out during the month of June 2015.

### a) Study Area

The study was carried out in private dental hospital in Chennai.

### b) Study Population

Study population comprised of random patients visiting private dental hospital in Chennai.

### c) Study Sample

Patients were selected by means of simple random sampling for the study.

### d) Study Design

The questionnaire was divided into two sections.

**Section A** focussed on demography details of the respondents-gender, age, occupation, income etc.,

**Section B** focussed on knowledge-based questions options, attitude based questions to assess the level of awareness on topical fluorides in preventing dental caries.

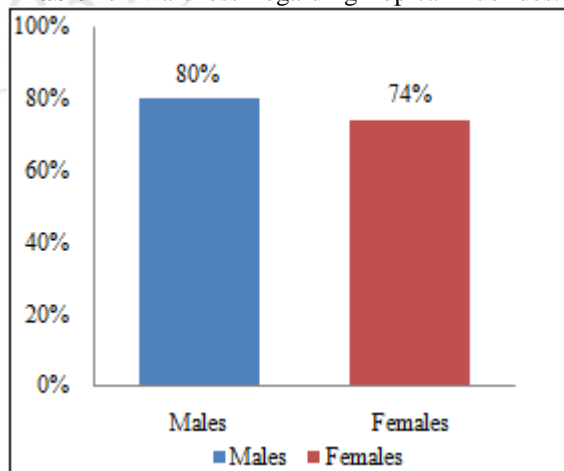
The purpose of study and procedure to fill up the questionnaire was explained to the patients. The questionnaire was distributed to 100 patients including both males(n=54) and females(n=46) of varied age groups(10 to 30 years,30-60 years, and more than 60 years) visiting private dental hospital in Chennai.

## 3. Results

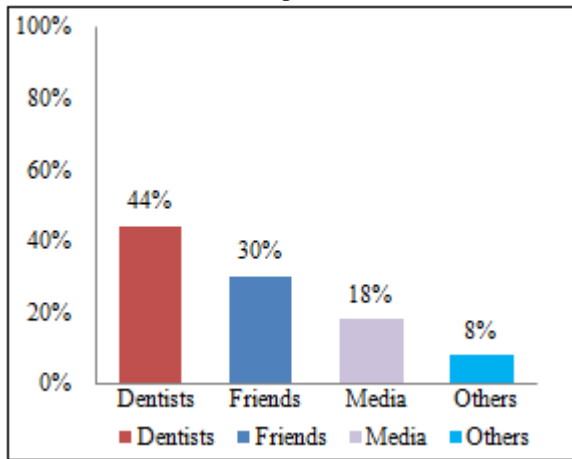
### Demographic Distribution

	Number	%
Males	54	54%
Females	46	46%
Total	100	100%

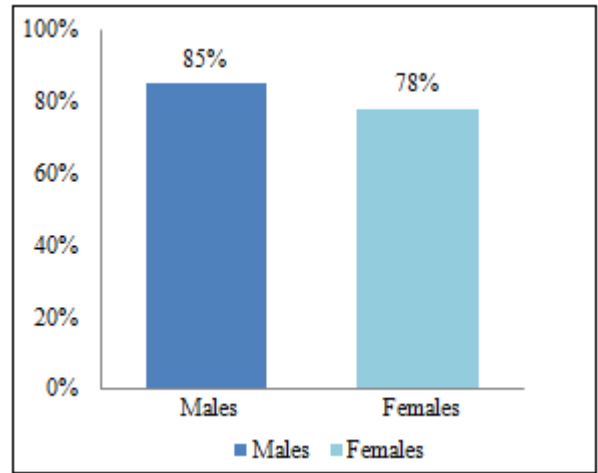
Table 1: Awareness Regarding Topical Fluorides:



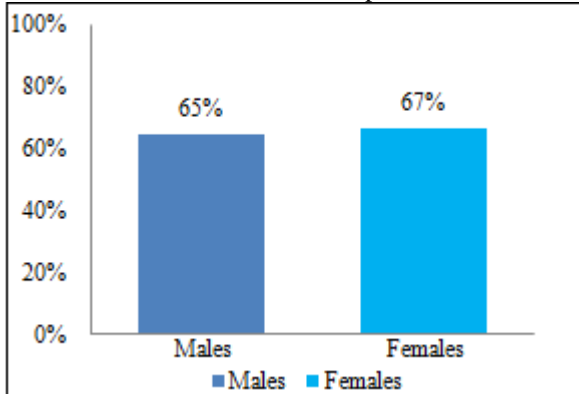
**Table 2:** Sources on Topical Fluoride Awareness



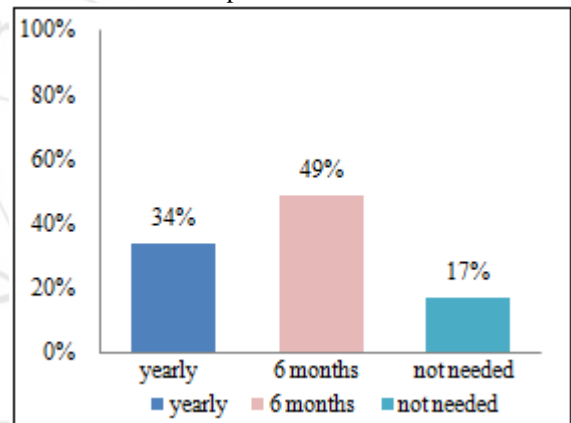
**Table 6:** Recognition of the Importance of Topical Fluorides



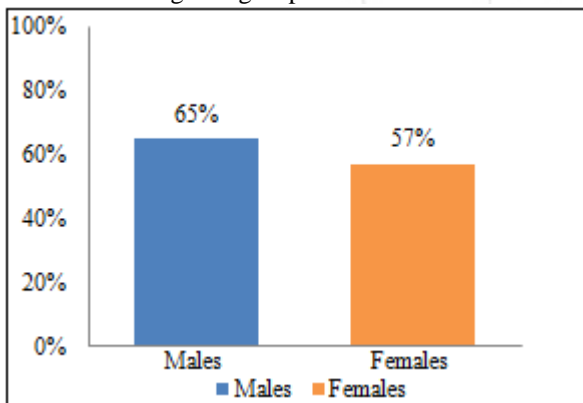
**Table 3:** Those Who Underwent Topical Fluoride Therapy



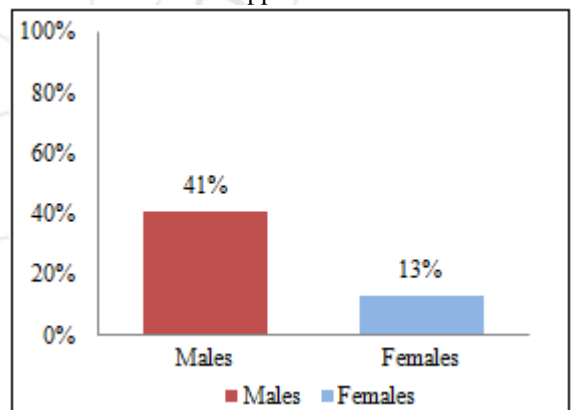
**Table 7:** Knowledge on the Frequency of Administering Topical Fluorides



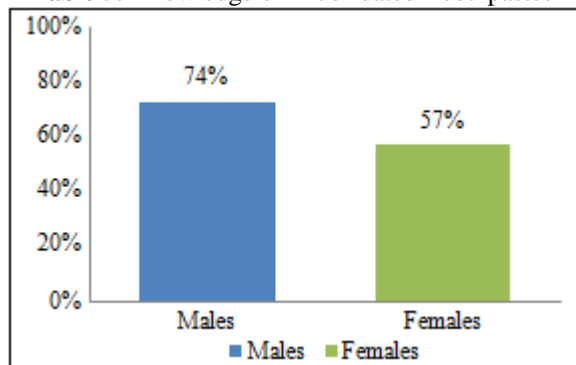
**Table 4:** Those Who Were Educated by the Dentists Regarding Topical Fluorides



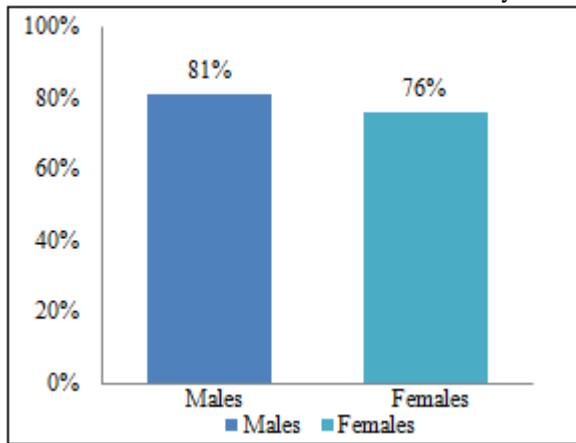
**Table 8:** Reports of Dental Caries after Topical Fluoride Application



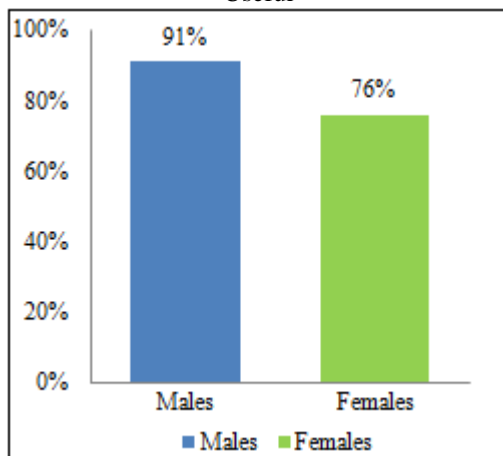
**Table 5:** Knowledge on Fluoridated Toothpastes



**Table 9:** Awareness on Fluoride Toxicity



**Table 10:** Those Who Found this Topical Fluoride Therapy Useful



#### 4. Results

- 1) Graph 1 indicates that 43(80%) males and 34(74%) females were aware of the topical fluoride therapy in preventing dental caries.
- 2) Graph 2 indicates that 44(44%) came to know about these topical fluoride therapy through dentists, 30(30%) through friends, 18(18%) through media and 8(8%) through other sources.
- 3) Graph 3 indicates around 35(65%) males and 31(67%) females have undergone topical fluoride application.
- 4) Graph 4 indicates that 35(65%) males and 26(57%) females were educated by their dentists regarding the different types topical fluoride application.
- 5) Graph 5 indicates that 40(74%) males, 26(57%) females were aware that their toothpastes were fluoridated.
- 6) Graph 6 indicates that 46(85%) males, 36(78%) females recognised the important role of these topical fluorides in preventing dental caries.
- 7) Graph 7 indicates that around 34 people (34%) felt that the frequency of administration of topical fluorides should be done once in a year, 49 people (49%) once in 6 months and 17(17%) people felt that frequent administration may not be required.
- 8) Graph 8 indicates that 22(41%) males and 6(13%) females reported of incidence of dental caries in the last 6 months after topical fluoride therapy.

- 9) Graph 9 indicates 44(81%) males and 32(70%) females were aware of the fluoride toxicity caused due to excessive fluoride intoxication.
- 10) Graph 10 indicates that 49(91%) males and 35 (76%) females found this topical fluoride therapy useful and suggested of recommending to their friends and family members.

#### 5. Discussion

43(80%) males and 34 (74%) females are aware about the role of topical fluoride in preventing dental caries. This shows that the awareness is more among the population who regularly visit the dentists. A similar survey was conducted by S. Nagarajan (July 2009, Malaysia) where 183(91.5%) of the respondents were aware of these fluorides and their anticariogenic effect. This shows that awareness was high in developed countries for quite some time, while in our country awareness regarding these topical fluorides has just started to grow.(9)

44(44%) people were aware of these topical fluoride therapies through their dentists,30(30%)through their friends and 18(18%)through media. Similarly a survey was conducted by M. Steven (August 2001, United States) ,it was found that 70( 70%)of the people were educated by public health care professionals regarding topical fluoride therapy. This shows health care professionals played a major role in spreading fluoride awareness in developed countries (10-11)

35 (65%) males and 31(67%) females have undergone fluoride application. A study conducted by (June 2001, United States) showed that 80 (80%) of the population had undergone topical fluoride therapy. This shows that these topical fluoride therapies are more popular among developed countries. (12)

40(74%) males and 26 (57%) females were aware of fluoridated toothpastes .This shows males are more aware of the efficacy fluoridated toothpastes in preventing dental caries.In a survey conducted by O. Jensen (2011,Sweden)it was found that 72(72%)of the people were aware of fluoridated toothpastes and recognised the need of fluoridated toothpastes for its anticariogenic effect.(13-14)

49(49%) of the people suggested that topical fluorides be administered once in 6 months, while 34(34%)of them suggested once in a year,17(17%)felt that there wasno need for administering topical fluorides. This shows the difference in their schools of thought. Similarly, a study was conducted by Jeffrey W.Hunter (August 2006, America) where in 65(65%) of the population suggested topical fluorides should be administered once in 6 months. (15) 41% males and 13% females reported with incidence of dental caries in the last 6 months after topical fluoride therapy especially children of age group 7-9 years. This shows that it cannot be concluded saying that topical fluorides administration would surely prevent dental caries. It can only reduce the incidence of dental caries. Similarly, a study was conducted by Rantala EV (August 1979, Finland) wherein 12(12%) children had reported with incidence of dental caries after topical fluoride therapy (16)

## 6. Conclusion

The role of public health dentistry professionals should create more awareness for oral hygiene, regular dental checkups, and preventive primary measures for caries prevention. More number of dental camps should be conducted in schools and colleges to create awareness for topical fluoride application in preventing dental caries at an early age.

## 7. Recommendations

Media also plays an important role in dental awareness and hence awareness on the application of topical fluorides to prevent caries, can be in the form of presentations in movie halls in rural areas and also through television network. Since more number of people nowadays are using mobile phones, SMS messages regarding topical fluoride therapy can be sent to bulk customers with the approval of TRAI and DCI.

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