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### RESEARCH ARTICLE

#### KNOWLEDGE ATTITUDE AND AWARENESS REGARDING FLUORIDE VARNISHES AMONG UNDERGRADUATE DENTAL STUDENTS

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#### Abstract

**Background:** Fluoride varnishes are increasingly becoming the standard for topical fluoride treatments. While awaiting FDA approval for their use as caries preventive agents, they are currently considered "off-label" for this purpose. This article focuses on the effectiveness of fluoride varnishes in preventing dental caries and introduces readers to various commercially available options. With ongoing clinical trials in the United States shedding light on their efficacy, it is evident that fluoride varnishes will play a vital role in our preventive strategies against dental caries. A cross-sectional study was conducted among undergraduate dental students at Mamatha dental college.

**Aim:** Knowledge Attitude and Awareness Regarding Fluoride Varnishes Among Undergraduate Dental Students.

**Objective:** Analyzing and determining the Knowledge Attitude and Awareness Regarding Fluoride Varnishes Among Undergraduate Dental Students.

**Method:** A cross sectional study was conducted among the dental students ( II, III, IV, interns) in a tertiary care teaching hospital, Khammam, using a web-based tool called forms pro, a semi-structural online questionnaire was designed and distributed to the students in order to fill. Descriptive statistics and chi-square test were calculated using SPSS version-29. A p-value <0.05 was used to evaluate statistical significance.

**Result:** A total of 220 students took part with females (85.9%) and males (14.1%). Age of participant's ranges from 19-25 years. Among all the students Interns have more knowledge, followed by II-BDS, IV-BDS and III-BDS.

**Conclusion:** The study results suggest that knowledge and awareness level of Fluoride Varnishes is adequate.

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**Introduction:-**

The effectiveness of topical fluoride agents in preventing and controlling dental caries is widely acknowledged. However, recent research has raised questions about the optimal frequency of their application due to concerns related to fluorosis, ingestion, and toxicity. As a result, there is a growing interest in reevaluating the clinical efficacy of topical fluoride agents. Among the numerous studies conducted on this topic, two key factors have emerged as pivotal in the management of caries: the identification of individuals at risk and the implementation of tailored preventive measures. It is imperative to assess the risk of dental caries in children and categorize them into groups based on their susceptibility, such as "high," "moderate," and "low" caries risk. Once an individual's caries susceptibility is established, a customized prevention plan should be initiated to address their specific needs. We were watching Very limited research in dentistry or medicine Students, especially those going to college. Before no studies have been observed comparing current graduates and trainees. So, we took these two and compared them.

**Methodology:-****Study design and area:**

A cross-sectional study was carried out at tertiary care teaching hospital, Khammam.

**Study population:**

The health care students including those of II, III, IV year and interns, who responded to the online questionnaire sent through social media.

**Study instrument:**

A self-administered questionnaire was designed, based on the knowledge and awareness the questionnaire had total of 15 questions and through online forms pro link. Each participant has to fill their demographic data like name, age, year of study. Participant has to select one option from the answers provided against the question. The questions were based on the Knowledge Attitude and Awareness Regarding Fluoride Varnishes Among Undergraduate Dental Students.

**Pilot study:**

A pilot study was conducted on a group of students to assess the validity and reliability of the study.

**Sampling method:**

The sampling method used is convenience method.

**Inclusion criteria:**

Students who were interested in the study and who are willing to participate are included.

**Exclusion criteria:**

Students who are not willing to participate are excluded.

**Organizing the study:**

The purpose of the study was explained in a short note which was sent along with the link via social media participants were asked to select one option from the answers provided against the questions.

**Statistical analysis:**

Data from the filled questionnaire was conducted in a tabular form in an excel worksheet and evaluated for analysis. The analysis was performed using SPSS 29 version.

**Result:-**

Out of 220 participants, majority of them belong to 21 – 24 years age group. The following are the percentages of students who took part in the survey: II BDS (32.7%), III BDS (11.4%), IV BDS (17.7%), interns

(38.2%). The response rates were 85.9% females and 14.1% males. Among all the students Interns have more knowledge, followed by II-BDS, IV-BDS and III-BDS.

**Table1:-** Demographic Profile of Respondents.

**Age Groups**

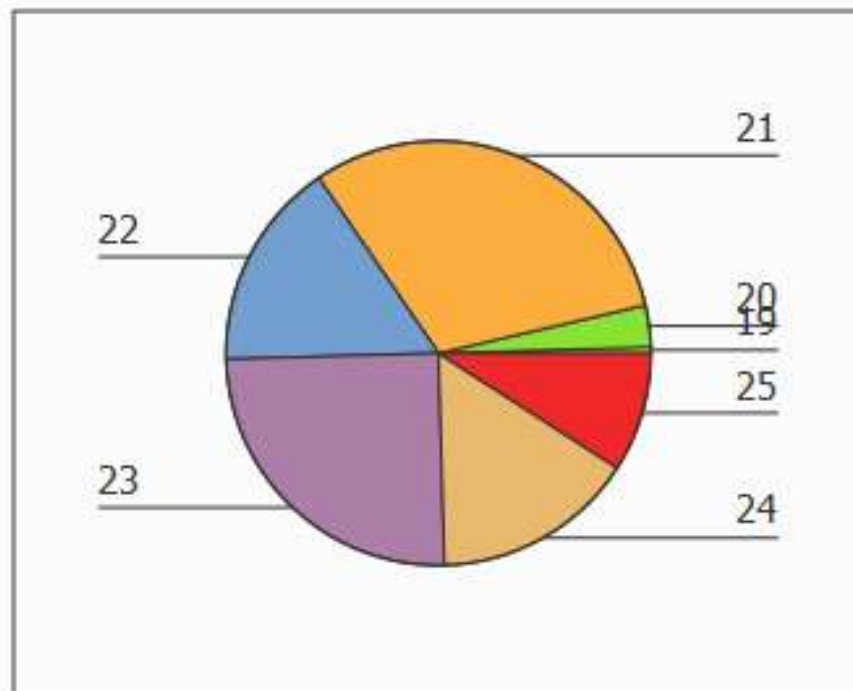
Demographic profile	No of respondents	% Of respondents
19	01	0.5
20	07	3.2
21	68	30.9
22	35	15.9
23	55	25
24	34	15.5
25	20	9.0
Mean Age	22.45	
SD Age	1.41	

**Gender**

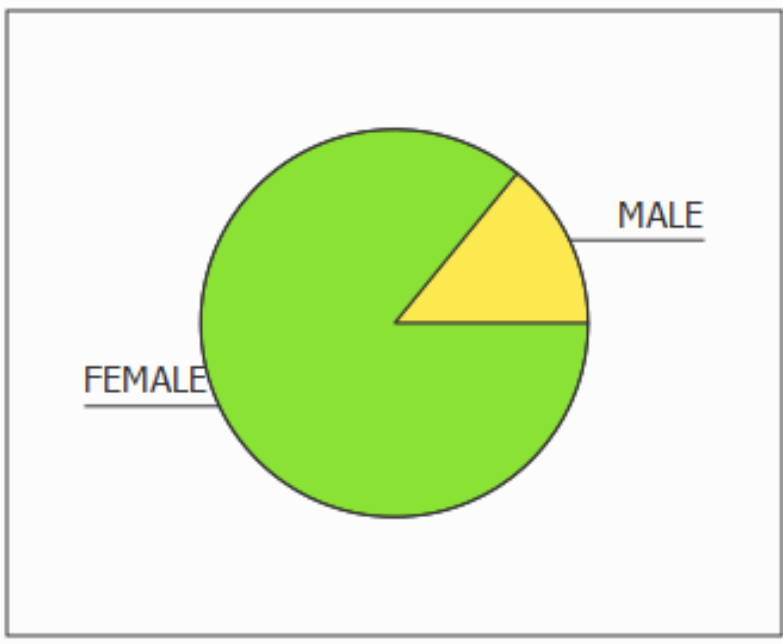
Demographic profile	No of respondents	% Of respondents
MALE	31	14.1
FEMALE	189	85.9

**Year Of Study**

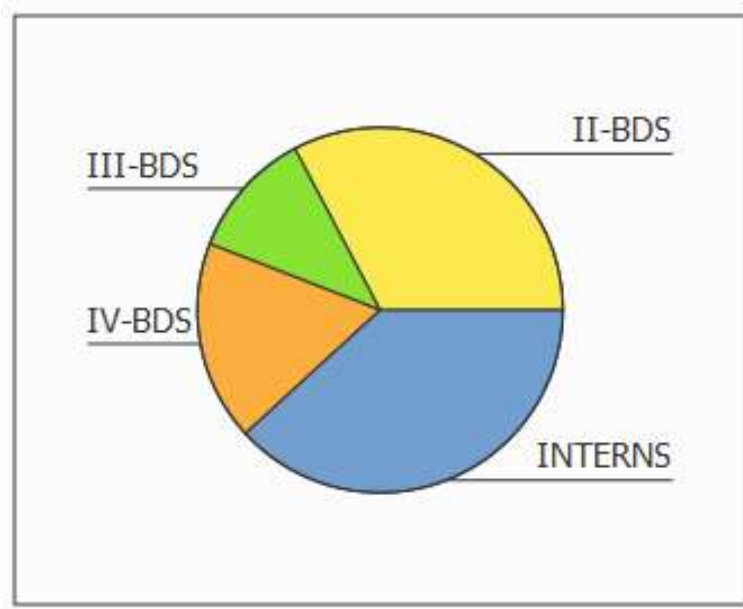
Demographic profile	No of respondents	% Of respondents
2 <sup>nd</sup> year	72	32.7
3 <sup>rd</sup> year	25	11.4
4 <sup>th</sup> year	39	17.7
Interns	84	38.2
Total	220	100



**Graph 1a:-** Demographic details - Age.



1-b:- Demographic details–Gender.



1-c:- Demographic details–Year of Study.

Table 2:- Distribution of study subjects based on responses to items.

Items	Responses (Options)								P-Values
	A		B		C		D		
	N	%	N	%	N	%	N	%	
Q1	54	24.5	97	44.1	42	19.1	27	12.3	0.001
Q2	72	32.7	60	27.3	53	24.1	35	15.9	0.022
Q3	48	21.8	80	36.4	76	34.5	16	7.3	0.049
Q4	70	31.8	75	34.1	51	23.2	24	10.9	0.002
Q5	24	10.9	77	35	68	30.9	51	23.2	0.037
Q6	40	18.2	81	36.8	71	32.3	28	12.7	0.011
Q7	66	30.1	52	23.6	72	32.7	30	13.6	0.010

Q8	21	9.5	100	45.5	56	25.5	43	19.5	0.005
Q9	64	29.1	72	32.7	56	25.5	28	12.7	0.073
Q10	86	39	34	15.5	18	8.2	82	37.3	0.016
Q11	84	38.2	46	20.9	32	14.5	58	26.4	0.041
Q12	31	14.1	51	23.2	86	39.1	52	23.6	0.037
Q13	44	20	50	22.7	104	47.3	22	10.0	0.095
Q14	162	73.6	58	26.4	-	-	-	-	0.007
Q15	34	15.5	44	20	40	18.1	102	46.4	0.094

### Discussion:-

Numerous well-conducted studies have demonstrated the efficacy of fluoride varnishes in combating dental caries. When applied correctly, these varnishes have been shown to reduce caries incidence by 40-56%. Recent research has confirmed the capacity of fluoride varnish to reverse and arrest active enamel lesions, thereby minimizing the need for restorative treatments. It is inevitable that professionally administered fluoride varnishes will become an increasingly valuable tool in our ongoing battle against dental caries. The increasing focus on dentistry rooted in prevention has spurred the rapid advancement of innovative treatment methods designed to promote early disease prevention. A significant benefit of fluoride varnishes is their simplicity of application. There has been some uncertainty regarding the necessity of thorough prophylaxis before applying varnish. According to Seppa's research, plaque removal is not a crucial prerequisite before the application of varnish. Fluoride varnishes are highly concentrated in their fluoride.

The study was conducted among dental students in Khammam. The results showed that the highest number of participants were familiar with the term Fluoride Varnishes.

### Conclusion:-

Based on the above study the current findings imply the dental students in Khammam have enough knowledge and awareness regarding Fluoride Varnishes. Therefore, need to conduct more programs on relatively to bring awareness about Fluoride Varnishes.

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