



Dental Students' Awareness, Knowledge, and Attitudes Regarding Dentin Hypersensitivity

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Abstract

To evaluate each Dental student's understanding of dentin hypersensitivity throughout their academic career. We polled 230 students in north India using an online survey form. Twenty questions about the dental students' understanding of dentin hypersensitivity were included in an online survey form, which was used to collect the replies. Out of 230 participants, out of which 62.2% were Females and 37.8% were Males, dental college students between the ages of 20 and 25 made up the majority of the respondents. 44.8% of respondents brush twice a day, compared to 53% who brush once. Only 70.4% of respondents said they regularly eat or drink acidic food or beverages like cold drinks. Dentin hypersensitivity is known to 156 students, 100 of them learned about it through sources other than the internet, their family, friends, the news, and television. 65.7% of survey participants reported having sensitive teeth. According to the students, dentin hypersensitivity is caused by improper brushing, acidic beverages, and poor oral care. 130 students consider it to be a serious issue. And 27% use over-the-counter medications to address hypersensitivity, with a dentist being the last resort.

Keywords: Dentin Hypersensitivity; Survey; Medications

Introduction

A prevalent oral ailment, dental hypersensitivity affects 40% of people [1]. A short-lived, intense mouth ache that is brought on by an outside stimulation is a sign of Dentin Hypersensitivity. Hot, cold, and sweet stimuli are most frequently encountered [2]. The quality of a person's life may be impacted by Dentin Hypersensitivity, which is thought to affect at least one in ten members of the general population [3,4]. The hydrodynamic theory, which hypothesizes that tiny fluid movements in dentinal tubules trigger pain responses, is the basis for the Dentin Hypersensitivity mechanism [5]. Severe hypersensitivity may cause a person's lifestyle to change. For this reason, dentists must have a full grasp of Dentin Hypersensitivity to properly diagnose and treat the condition [6].

Using unbiased techniques known as questionnaires, researchers can collect information about people's knowledge and attitudes [7]. This study's findings should increase dental professionals' understanding of this issue, which will enhance patients' oral health [8]. Dentin hypersensitivity treatment focuses on reducing or eradicating the condition's causes through occlusal correction, dietary recommendations, toothbrushing instructions, and desensitizing chemicals. Several in-office DH treatment techniques have been recorded up to this time, including laser therapy, fluoride

cavity varnishes, and treatments based on potassium [9]. Studies have shown how utilizing sealers and repair can significantly lower DH in the short term. Toothpaste can also be beneficial, but only if used regularly over an extended length of time [10]. However, most patients choose not to desensitize their teeth since they do not consider dentin hypersensitivity a severe issue with their oral health [11]. Establishing a management strategy that has both a preventative strategy and a monitoring component is crucial to preventing future harm to the mouth's hard and soft tissues [12].

Methods Participants

The sample was comprised of 230 (143 Females and 87 Males) students.

Instruments

Primary research using an online questionnaire was given to students. Informed consent was taken from the students. The research tool was the online survey form, which was used to survey 230 students in India.

Questionnaire

The questionnaire comprised two sections

- **Section 1:** Patient characteristics and educational experiences (Q: 1-4)
- **Section 2:** Knowledge assessment (Q: 5-20)

Procedure

A cross-sectional survey was conducted to assess the awareness, knowledge, and Attitude of Dentin Hypersensitivity among 230 Students. Students of Dental College over 2 months from Mach 2023 to April 2023 were given a pre-validated, self-administered questionnaire about Dentin Hypersensitivity after taking their due consent. The questionnaire comprised 20 questions out of which 19 were close-ended and 1 question was open-ended. The initial 9 questions were about demographics, oral hygiene practices, dietary habits, and previous orthodontic treatment. Further questions were about awareness, knowledge, and perception of Dentin Hypersensitivity. A total of 230 respondents participated in the study. The questionnaire was administered as a printed form on which the participants had to fill in their responses. The consent to contribute to the study was duly obtained before handing out the questionnaire. The participants were informed about the purpose of the study and ensured its confidentiality. Data were analyzed and presented in tabulated form.

Results

A total of 230 students participated in the study which consisted of 143 Females and 87 Males students. The data obtained from respondents (Table 1) shows the following results:

S no.	Questionnaire	N	%
1.	How many times do you brush in a day?		
a.	Once	122	53%
b.	Twice	103	44.8%
c.	After a meal	5	2.2%
2.	What type of toothbrush do you use?		
a.	Soft bristles	138	60%
b.	Medium bristles	3	1.3%
c.	Hard bristles	89	38.7%
3.	Have you previously ever undergone orthodontic treatment?		
a.	Yes	43	81.3%
b.	No	187	18.7%
4.	Do you consume acidic food and drinks like cold drinks etc		
a.	Yes, on regular basis	42	18.3%
b.	Yes, but not regular	162	70.4%
c.	no	26	11.3%
5.	Do you know about Dentin Hypersensitivity		

a.	Yes	156	67.8%
b.	no	74	32.2%
6.	If yes, what is the source of your information?		
a.	Internet	59	25.7%
b.	Friends	23	10%
c.	Family	16	7%
d.	Newspaper	0	0%
e.	TV Advertisements/TV	31	13.5%
f.	Other sources	100	43.5%
7.	Do you have sensitivity in your teeth?		
a.	Yes	79	65.7%
b.	No	151	34.3%
8.	If yes, Does it occur due to cold foods and drinks?		
a.	Yes	81	39.7%
b.	No	123	60.3%
9.	Does it occur due to hot foods and drinks?		
a.	Yes	197	14.3%
b.	no	33	85.7%
10.	Mark the level of your pain/sensitivity? According to Verbal Evaluation Scale (VES)		
a.	No pain	145	63%
b.	Mild pain	64	27.8%
c.	Moderate pain	20	8.7%
d.	Severe pain	1	0.4%
11.	What do you think could be the cause of hypersensitivity?		
a.	Faulty toothbrushing	13	5.7%
b.	Acidic drinks	21	9.1%
c.	Poor oral hygiene	26	11.3%
d.	All of the above can be the causes of hypersensitivity	170	73.9%
12.	Do you think teeth hypersensitivity is a severe problem?		
a.	Yes	130	56.5%
b.	no	79	34.3%
c.	Don't know	21	9.1%
13.	Have you taken any measures/home remedies to treat hypersensitivity?		

a.	Yes	62	27%
b.	no	168	73%1
14.	Have you visited a dentist for teeth hypersensitivity problem?		
a.	Yes	45	19.6%
b.	No	185	80.4%
15.	If No, Why?		
a.	Time constraints	26	11.3%
b.	Financial Constraints	11	4.8%
c.	Did not think it was a serious problem	48	20.9%
d.	Any other causes	145	63%

Table 1

From Figure 1 we depict that 67.8% know about dentin hypersensitivity and 32.2% did not know about it. Most respondents use soft bristles (60%) brush and 89% medium Bristles.18.7% of respondents have undergone orthodontic treatment.

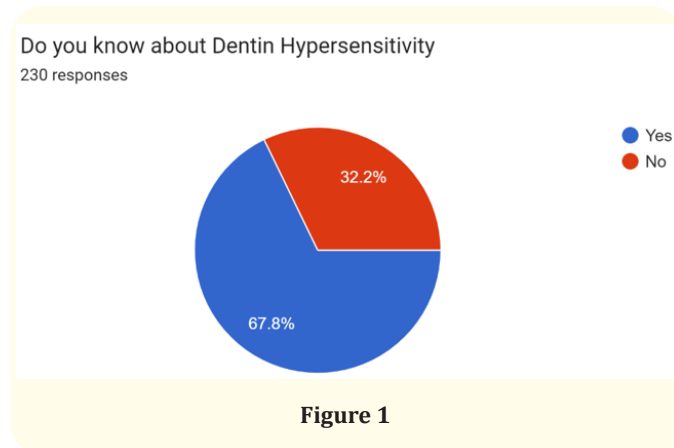


Figure 1

34.3% of respondents have sensitivity in their teeth and 65.7% do not. Maximum respondents answered that it occurs due to cold foods and drinks. According to Verbal Evaluation Scale(VES), 27.8% have Mild pain in their teeth.

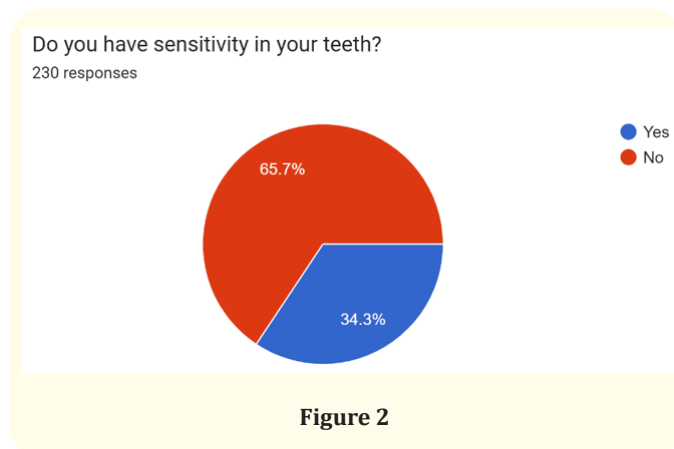


Figure 2

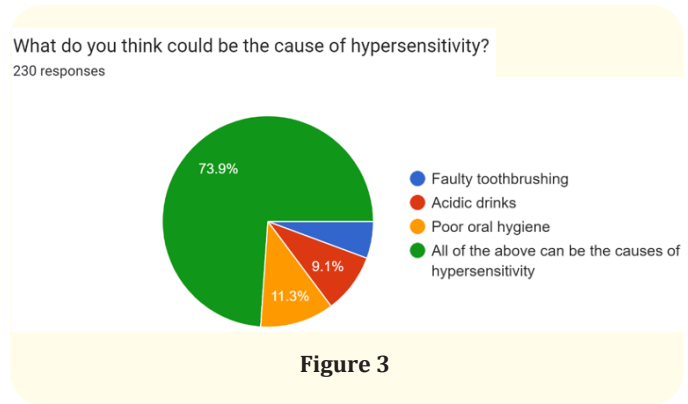


Figure 3

Figure 3 tells us that 73.9% of respondents believe that faulty toothbrushing, acidic drinks, and poor oral hygiene all can be the reason for hypersensitivity.56.5% of respondents stated that dentin hypersensitivity is a severe problem, 34.3% are not sure about the severity and 9.1% did not have any idea of it.27% of respondents take measures to treat dentin hypersensitivity.

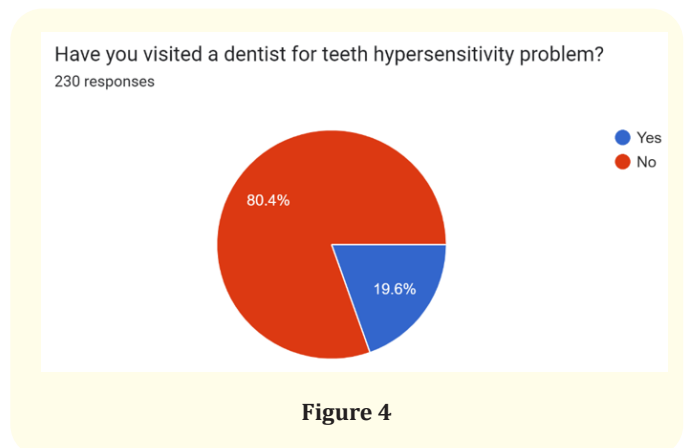


Figure 4

19.6% of respondents visited a dentist for tooth hypersensitivity problems. And 80.4% have not visited the dentist because 20.9% believe that it is not a severe problem, 4.8% for financial constraints,11.3% for Time constraints, and 63% stated other causes.

The maximum number of students are undergraduate students with the age group of 20-25 years with females 62.2% and males 37.8%. 53% of Respondents brush once daily and 44.8% twice. With 60% use soft bristles brushes and only 18.7% have undergone orthodontic treatment. Of respondents who consume acidic food and drinks like cold drinks 70.4% do not regularly consume them.

156 students have an idea of dentin hypersensitivity and source of information is other sources than internet, family, friends, newspaper, and TV for 100 students.

65.7% of respondents have sensitivity in their teeth. According to the students incorrect toothbrushing, acidic drinks, and poor oral hygiene is the reason for dentin hypersensitivity. 130 students believe that it is a severe problem. And 27% take home remedies to treat hypersensitivity and the maximum does not go to the dentist for the same.

Discussion

There is a growing recognition that Dentin Hypersensitivity is a growing problem that must be addressed from both a diagnostic and a problem-solving standpoint. It is a prevalent oral health condition that affects one or more teeth in many adults. Adults are becoming more affected by this chronic condition. The loss of enamel and cementum, as well as the exposing of dentinal tubules, are the usual causes of this condition. Dentists must quickly pinpoint the etiological causes in order to stop the localization and onset of dentin hypersensitivity. These methods, which include the use of fluoride composites, resins, lasers, and bioglass is thought to be the simplest and most effective treatments for the majority of patients. Dentin hypersensitivity must be understood by the students. Since one of the most frequent reasons why people visit a dentist is for discomfort. Dentin hypersensitivity is an issue that affects 56.5% of those who are aware of it, or 67.8% of people. And 73.8% are aware that it could happen because of various causes.

Recommendation

Using desensitizing toothpaste is the most effective and least invasive treatment. Other strategies for Dentin hypersensitivity management include

- Oral hygiene education and brushing technique instruction for Dentin hypersensitivity prevention
- Behavioural control and elimination of Dentin Hypersensitivity predisposing factors
- Non-invasive pain relief treatments such as occluding dentin tubules and blocking nociceptive transduction/transmission.
- Restorative and surgical therapies for hard and soft tissue abnormalities in the mouth.
- Avoid medium- or hard-bristle toothbrushes
- Avoid brushing teeth immediately after ingesting acidic foods

Conclusion

The study's findings imply that there is still some ambiguity regarding awareness, knowledge, and perception of dentin hypersensitivity and some aspects of the condition's therapy. Additional educational techniques must be used in daily dental practice, with a special emphasis on the value of preventing and treating dentin hypersensitivity. It is suggested that desensitizing toothpaste was the primary treatment method used for dentin hypersensitivity (DH), which is a clinical entity that is quite frequently observed. The findings also demonstrated the need for early-stage guidance for dentists and their patients on the etiology, prevention, and treatment of DH. Also predicted was that self-reporting of DH is substantially lower and declining.

Acknowledgements

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