

**Assessment of Dentinal Hypersensitivity cases seen by Dental Practitioners in and around Mumbai, Maharashtra - A Short Survey Study.**

<sup>1</sup>Snehal Ghodke – BDS Intern , MGMDCH, Mumbai

<sup>2</sup>Sritej Jagtap – BDS student, MGMDCH, Mumbai

<sup>3</sup>Dr. Aditya Shinde - Lecturer, MGMDCH, Mumbai

<sup>4</sup>Dr. Trupti naykodi – Lecturer, MGMDCH, Mumbai

<sup>5</sup>Dr. Amrut Bambawale – Tutor, MGMDCH, Mumbai

**Corresponding Author:** Sritej Jagtap – BDS student, MGMDCH, Mumbai

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**Conflicts of Interest:** Nil

**Abstract**

Dentinal Hypersensitivity is a relatively common painful condition described as short sharp pain usually in response to stimulus in areas of dentinal exposure. Dentinal hypersensitivity is not life threatening, but it can be a particularly unpleasant sensation for patients dictating types of food and drinks ingested. Once sensitivity has become established the pulp may become irreversibly sensitive. Treatment is therefore aimed at not only restoring the original impermeability of the tubules by occluding them, but also controlling the neural elements within the pulp to dampen the external stimulatory effects. Mild and responsive dentinal hypersensitivity may be managed by less complex treatments such as Over the counter desensitizers and in office treatment be reserved for more severe recalcitrant cases. Clinicians should consider predisposing factors, removal of etiologic factors

and dietary modifications to prevent recurrence. This article aims to inform practitioners on various management strategies for dentinal hypersensitivity.

**Keywords:** DH (Dentin Hypersensitivity), Sensitivity, Pain.

**Introduction**

Dentin hypersensitivity is one of the common clinical cases seen by dental practitioners in dental office<sup>1</sup>. According to Canadian Advisory Board on Dentin hypersensitivity, Dentin hypersensitivity is defined as "sharp, short pain arising from exposed dentin in response to stimuli typically thermal, chemical, tactile or osmotic and which cannot be ascribed to any other form of dental defect or pathology"<sup>2</sup> It is also known from the published studies that dentin hypersensitivity affects individual's quality of life. However the prevalence may vary from locations as well as methodology employed to carry out

study (questionnaire vs. clinical examination). The studies carried out in several parts of the world, showed that among the odontalgia's dentin hypersensitivity is a painful condition seen in dental office which varies from 4% - 74% and in India this prevalence varies from locations attributed to their local oral practices.

The purpose of this study is to know more about dentin hypersensitivity and to examine some associated factors such as initiating stimuli, gender predisposition, and initial step taken by dental clinicians to treat it. For the same an online questionnaire based study was done in India.

### **Material And Method**

The survey study included 250 dental practitioners. The data was collected from an online survey Google form, which was circulated to practicing dental OPD's in and around Mumbai, Maharashtra. All specialized branches of dentistry were taken into consideration for the survey. The questionnaire was designed based on worldwide reports on Dental Hypersensitivity including its gender predisposition, triggering factors, method of assessment and management done by the practitioners in dental office. The structured custom made questionnaire consisted of 10 questions which included both multiple choice questions and open-ended questions.

Questions asked in the survey form

1. Are you a practicing dentist, if yes branch of specialization?
2. Which area/city do you practice?
3. What was the common age group for sensitivity problem?
4. How was the pain described by the patient?
5. Which was the common gender seen for the sensitivity problem?
6. What was the causative factor told by the patient?
7. How long did the pain survived for the patient?
8. How did you checked for sensitivity?

9. Did patient take any measures to relieve the pain, if yes what were the measures?

10. What was your initial step treating sensitivity?

A structured criteria was formulated for the ease of the study.

### **Inclusion criteria**

All dental practitioners practicing in and around India. Willingness of dental practitioners to participate in the survey.

Practitioners from all specialized branches of dentistry.

### **Exclusion criteria**

All the dental practitioners not willing to participate.

The eligible and willing dentists received the self-explanatory structured questionnaire in online format. Data was tabulated and analyzed using SPSS version 11.5 (SPSS 11.5 for windows).

### **Result**

Two hundred fifty questionnaires were originally provided to the participants and of the 240 questionnaires that were returned, 221 questionnaires (127 M; 94 F; mean age 36.26 years [standard deviation, SD: 11.34]) were included for analysis, a response rate of 83%.

On question of severity of pain experienced by patient in present study noted 71.7% had moderate pain or sensitivity, severe pain noted as 11.6% and mild as 16.7% (Table 1). on the basis of pain severity patients reports to dental operatory, mild patients generally believe in home remedies to get rid of DH. Age based data clearly shows elderly people gets more DH as compared to youngsters, present study noted 3.3% of DH where in elder patient it is 56.6% (Table 2). It was proven in previous study than male are more prone for DH as compared to female, current study also got same evidence, DH in male shown 68.3% and in female it is 31.7% (Table 3). Present study we have asked question about duration of sensitivity cause duration might help in diagnosis as well as in treatment

plan, study noted 41.7% participants got pain for few seconds, 48% felt it for minutes and 10.3% had sensation for hours (Table 4).

Causative factors described by participants 10% DH on sweet intake, 76.7% on cold intake (Table 6). Question asked on how sensitivity was checked, on which 75% participants had sensitivity while they are undergoing dental check up and 25% had self administered it (Table 5). Response received on treatment plan after diagnosis of DH study noted 56.7% treated by monitoring underlying causes, 30% by oral hygiene education, 13.3% by traditional dental treatment methods (Table 7).

### **Discussion**

DH is characterized by short sharp pain arising from exposed dentin in response to stimuli typically thermal, evaporative, tactile, osmotic, or chemical and which can't be ascribed to any other form of dental defect or pathology<sup>3</sup>. Dentin hypersensitivity is among the most frequently reported dental concerns. This condition primarily occurs due to dentin exposure to thermal, chemical or osmotic stimuli, thereby causing extreme sensitivity and pain. The dentin is the part of the tooth structure directly underneath the enamel. DH is also referred to as dentin sensitivity<sup>4</sup>. This can cause significant deterioration of the quality of life of the affected individual, because of the pain, which may strike while doing something as routine as eating something cold or hot, and the poor aesthetic appearance.

Previous studies shown age related sensitivity is greater as compared study; it may vary by gender as in present study male shown more sensitivity than female. Most common symptom of sensitivity is cold sensation while consuming cold intake, which is common in all studies. To treat DH it seems like dentist focus on dental hygiene and diet first and then considers the required treatment. Most

of the patient self assist about their DH and report to operator, by which dentist chooses the treatment plan according to the favorable conditions.

One of the problems in conducting questionnaire studies is that the reasons for a poor or low response rate may not be obvious. For example, one of the reasons could be due to a lack of knowledge and understanding by the participants and therefore a reluctance to return the questionnaire<sup>5</sup>. Alternatively, factors such as a lack of time to complete the questionnaire or simply considering that completing a questionnaire were not relevant to their practice needs or high on their list of priorities.

The present study highlighted several differences from previous studies and it was apparent there is a need for additional education strategies to be practiced in everyday dental practice in particular a greater focus on the importance of the prevention in the management of DH as well as in the diagnosis and management of the condition<sup>6</sup>. Furthermore, the dentist should recognize that there are other forms of chronic pain when considering a differential diagnosis as well as the need to have a monitoring strategy when managing DH<sup>7</sup>.

### **Conclusion**

The results of the present study would appear to suggest that in terms of knowledge and understanding of DH, there is still confusion concerning some aspects of the diagnosis and management of the condition. There is clearly a need for additional education strategies to be practiced in everyday dental practice, in particular a greater focus on the importance of prevention in the management of DH as well as in the diagnosis and management of the condition.

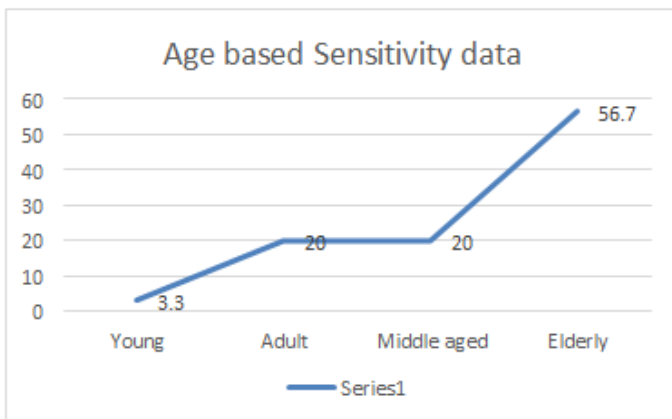
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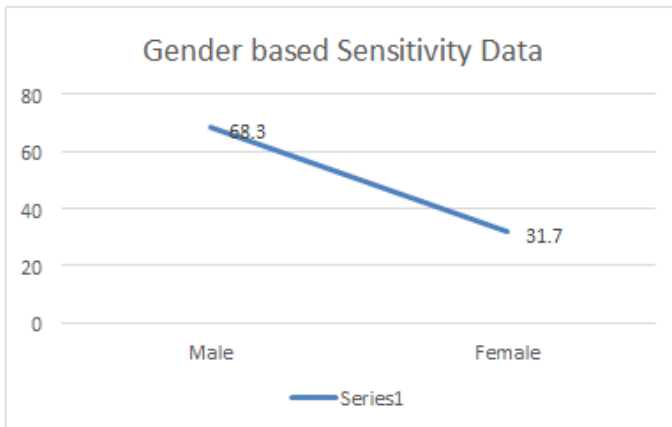
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**Legend Graph**

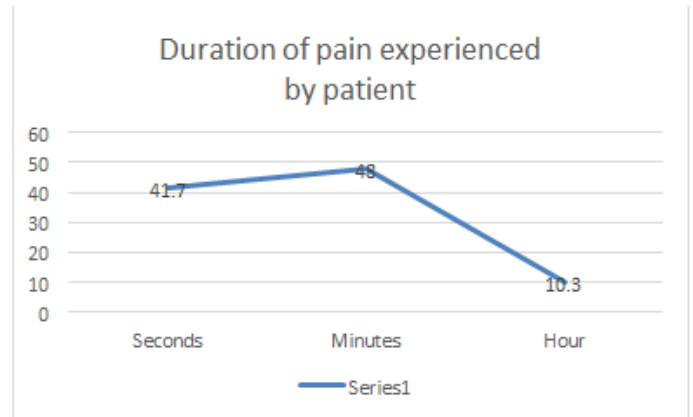
Graph 1



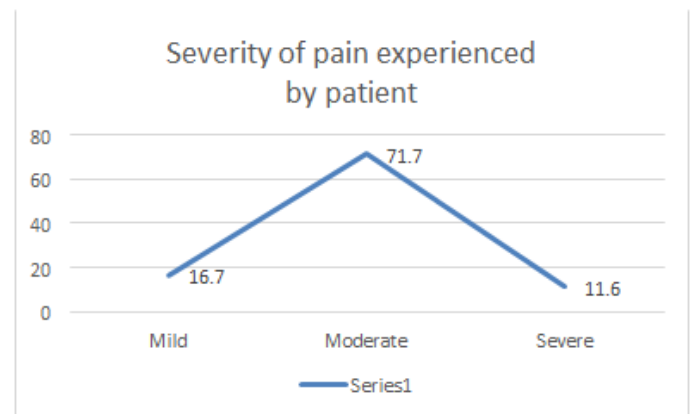
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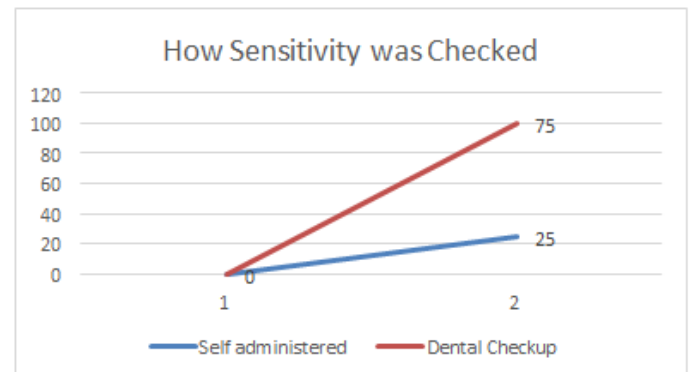
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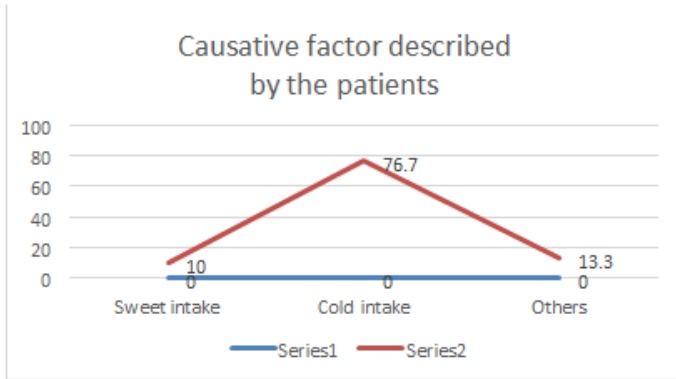
Graph 4



Graph 5



Graph 6



Graph 7

