



## KNOWLEDGE ATTITUDE AND AWARENESS ON BRUXISM AND PROSTHODONTIC MANAGEMENT AMONG UNDERGRADUATE DENTAL STUDENTS

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### ABSTRACT

**Objective:** To assess and evaluate the Knowledge attitude and awareness on Bruxism and its Prosthodontic Management among undergraduate dental Students. **Materials and methods:** A cross-sectional study using a modified version of self-administered questionnaire was formulated and the questionnaire was pretested for validation. The distribution was personally done through the web designed program among the final year undergraduates and residential interns. A total of 100 validated entries were collected. Data were entered into Microsoft Excel 2007 and analysed in SPSS V20. Associations between categorical variables were determined using Chi-square or Fisher's exact test.  $P < 0.05$  was considered statistically significant. **Result:** Majority of students reported the correct answers. While statistically significant differences were noted between the knowledge of interns and final year students about questions related to General information about Bruxism and Effects of bruxism on prosthetic management and its treatment. Mean score of awareness among interns was higher than among final years ( $19.14 \pm 3.25$  vs.  $17.44 \pm 3.10$ ) ( $p=0.003$ ), thus it showed good awareness on bruxism and its management. **Conclusion:** It can be concluded that most of the student's awareness was high. Interns had higher awareness than final year.

### INTRODUCTION

Bruxism is defined as "the Para functional grinding of the teeth; an oral habit consisting of involuntary rhythmic or spasmodic non-functional gnashing, grinding, or clenching of teeth, in other than chewing movements of the mandible, which may lead to Occlusal trauma.<sup>[1]</sup> In simple terms, bruxism is a clenching and grinding of teeth when the individual is not chewing or swallowing.<sup>[2]</sup> It is noted as the commonest of the many Para functional habits of dento facial system.<sup>[3]</sup> Bruxism activity is of major concern for the dentists as it leads to tooth wear and damage, restoration fractures, temporal headache and other temporomandibular disorders.<sup>[4]</sup> The aetiology of bruxism is unclear, but the condition has been associated with stress, Occlusal disorders, allergies and sleep positioning. Due to its nonspecific pathology, bruxism may be difficult to diagnose. Unfortunately, very little data exists on the subject of a cause-and-effect relationship of bruxism to the point that expert opinions and cautionary approaches are still considered the best available sources for suggesting good practice indicators if ignored leads to the breakdown of dentition and oro facial pain.<sup>[5]</sup> Hence, early diagnosis and treatment is considered to be of utmost importance. Bruxism has multifactorial causes which have to be identified and

managed by various treatment modalities.<sup>[6]</sup> As bruxism events bring about tooth and restoration damage, it is of major concern for the dentists. This study discusses about the Knowledge Attitude and Awareness on Bruxism concepts in the diagnosis and treatment of bruxism among Dental Student.<sup>[7]</sup>

### METHOD

A cross-sectional questionnaire was formulated and distributed among the interns and final years of Thai Moogambigai Dental College and Hospital, Dr M.G.R educational and research institute, Chennai, TN, India. A response rate of 100% was obtained from the included respondents, of which 55% were male and 45% were female. The questionnaire had 25 standardized, pretested questions with multiple choices (Table I). There were no drop outs and no incomplete answers provided by the participants in the study performed. The first part of the questionnaire consisted of the demographic aspects (Table II) which consisted of the basic information of the practicing dentists including their gender and practice. This was followed by a core part which had questions being posed on Prosthodontic management of bruxism. They were also questioned on management of bruxism.

**Table 1: Sample Questionnaire Form.**

Sample Questionnaire
<p>1. Do you know what bruxism is? a)Yes b)no</p> <p>2. Bruxism is more prevalent in a)Male b)Female</p> <p>3. Bruxism is most frequently seen at which surface? a)Buccal b)Palatal/lingual c)Occlusal d)All the surface</p> <p>4. The most frequently affected teeth by bruxism are a)Incisors b)Premolars c)Molars d)All the above</p> <p>5. What do you think are the causes of bruxism? a)Stress and anxiety b)Lifestyle c)Sleep disorder d)All the above</p> <p>6. Symptoms of bruxism are a) Sleep disruption b)Muscle tenderness c) Pain /tenderness of TMJ d)All the above</p> <p>7. The clinical signs of bruxism are a) Increased sensitivity b)Fracture of teeth c)Abnormal tooth wear d)All the above</p> <p>8. Effects of bruxism on masticatory system are a)Pathological tooth migration b)Tooth mobility c)Bone loss d)All the above</p> <p>9. Do you think prevalence of bruxism has a)Increased over past 5 years b)Decreased over past 5 years</p> <p>10. Can prosthetic replacement cause bruxism? a)Yes b)No</p> <p>11. Bruxism is more common in which of the following prosthetic treatment a)Fixed partial denture b)Complete denture c)Removable partial denture d)Implant</p> <p>12. The most potential technical risk factor of bruxism on implant prosthesis a)Superstructure complication b)Crestal bone loss c)Fracture of components d)All the above</p> <p>13. The most common biological complications of bruxism in implant prosthesis are a)Peri implant bleeding b)Marginal bone loss c)Mobility of implant d)All the above</p> <p>14. The most common complication of bruxism in complete denture patient a)Soreness in denture bearing area b)Loss of retention c)Residual ridge resorption d)None of the above</p> <p>15. Which material would show minimal differences in wear resistance in heavy bruxers? a)Gold b)Metal c)Ceramic d)Resin material</p> <p>16. When prosthetic restoration is being provided for bruxism patient what are the things to be considered? a)Heavy chewing forces b)Unfavourable loading direction c)Design &amp; structure d)All the above</p> <p>17. What principles should be maintained to reduce mechanical failure with teeth having short clinical crowns? a)Mechanical retention b) Resistance form c)Occlusal clearance d) All the above</p> <p>18. Will unpolished ceramic be hazardous to opposing natural tooth? a)Yes b)No</p> <p>19. What is the effective way to increase retention in worn out abutment? a)Preparation of boxes b)Preparation of grooves c)Parallel pins d)All the above</p> <p>20. Will unpolished ceramic be hazardous to opposing natural tooth? a) Yes b) No</p> <p>21. When there is replacement of teeth with metal in Bruxism patient, which Will get more affected? a)Opposing natural tooth b)Replaced Metal crown</p> <p>22. What type of Treatment do you prefer for Bruxism patient?</p>

- a)Conservative with Behaviour Management b)Treatments methods  
 23. The 1st line dental strategy for management of bruxism is  
 a)Occlusal splint/mouth guard b)Pharmacological therapy  
 c)Behavioural management d)All the above  
 24. Will cognitive behavioural therapy like yoga, massage and reading be helpful in distracting bruxism?  
 a)Yes b)No  
 25. Which type of medication will induce bruxism?  
 a)Antidepressant b) NSAIDS

## RESULT

### 1. Demographic Information

A response rate of 100% was obtained from the included respondents, of which 55% were male and 45% were female Among 100 participants 69% were Interns and the rest 31% of them were Final years.

**Table 2: Demographic data.**

Variables	N	(%)
Gender		
Male	55	55%
Female	45	45%
Year of study		
Final year	69	69%
Intern	31%	31%

### 2. General information about Bruxism

When the participants were questioned if they know what is bruxism 95% answered yes and 5% were not aware of bruxism. When they were asked is bruxism more prevalent in male or female 62% answered male and 38% answered female. 93% of the participants know how to differentiate between natural and worn out tooth by colour and 7% has responded that they were unable to identify. 80% says Bruxism is most frequently seen at occlusal surface, 9% buccal surface, 3% palatal and 8% says bruxism can be seen in all the surfaces. 51% say that Molar is the most frequently affected teeth by bruxism 22% Incisor, 21% Premolar, and 19% all the teeth will be affected. 44% say that Stress and anxiety is the causes of bruxism, 12% Lifestyle, 17% Sleep disorder and 27% say all the three. 44% says that Sensitivity & Pain in Tooth is the most suffered Symptoms of bruxism, 12% Muscle tenderness, 13% Pain of the TMJ & Jaw Discomfort and 31% says all the three. 37% say that abnormal tooth wear is clinical signs of bruxism, 20% Limited Occlusal opening, 22% Fracture of teeth 21% says all the three.

### 3. Effects of bruxism on prosthetic management and its treatment

Of 100 responses 37% say that Bruxism is more common in Implant prosthesis, 31% Fixed partial denture, 21% complete denture 11% say all of the three. When asked which is The most common complication of bruxism in complete denture patient 56% says Soreness in denture bearing area is more common, 17% Loss of retention, 20% Residual ridge resorption and 7% None of the above. Do you think prevalence of bruxism has? 79% has said Increased past 5 years and 21%

Decreased past 5 years. Can prosthetic replacement cause bruxism? 84% has said Yes and 16% No. Will unpolished ceramic be hazardous to opposing natural tooth 87% Yes 13% No. Will cognitive behavioural therapy like yoga Massage reading help distracting bruxism 89% Yes 11% No. Which type of medication will induce bruxism? 79% Anti-Depressant and 21% NSAIDS. What type of treatment do you prefer for Bruxism Patient? 61% Conservative/Behavioural 39% Treatments method.

## DISCUSSION

Research focusing on the relationship between bruxism and prosthetic therapy is scarce. There's no conclusive evidence that any prosthetic therapy can eliminate bruxism and likewise, no evidence to support that bruxism is caused by prosthetic therapy.<sup>[8]</sup>

Sarma TD.<sup>[9]</sup> in their article Females are more commonly affected by bruxism. Shilpa Shetty.<sup>[10]</sup> Bruxers are more anxious than non bruxers. A multifactorial large scale population study to sleep bruxism revealed highly stressful life as a significant risk factor A study by Van Selms,<sup>[11]</sup> et al. demonstrated that daytime time clenching could significantly be explained by experienced stress.

Krishna Prasad D<sup>[12]</sup> in his review article has demonstrated survival rates of conventional fixed partial dentures at 94% after 5years and 89% after 10years. And the most common technical failure was fracture of material and loss of retention. In 15 year follow up study of mandibular implant supported fixed prosthesis; smoking and poor oral hygiene has a great role in bone loss.

When compared to our study Adrian U.J. Yap.<sup>[13]</sup> in their article say psychological approaches to manage Bruxism include hypnotherapy, cognitive therapy, behavioural therapy, stress, and relaxation management. And the use of occlusal splints is the best Dental treatment usually recommended.<sup>[14]</sup>

## CONCLUSION

Current knowledge Attitude and Awareness among Dental Students on the prevalence, aetiology, consequences, diagnosis and Prosthodontic Management of bruxism was reviewed. Majority of students reported the correct answers. While statistically significant differences were noted between the knowledge of interns and final year students. However at present, there is no

effective treatment that “cures” or “stops” Bruxism permanently. A combination of different strategies may be warranted to protect teeth/restorations, reduce bruxism activity, and relieve pain.

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#### CONFLICTS OF INTEREST

There are no conflicts of interest.

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