



## **Evaluation of Dental Hygiene and Para-functional Habits in Oro-facial Pain among Patients Visiting Sharad Pawar Dental College & Hospital: A Questionnaire Based Cross Sectional Study**

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### **Authors' contributions**

*This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.*

### **Article Information**

DOI: 10.9734/JPRI/2021/v33i45B32808

#### Editor(s):

(1) Dr. Thomas F. George, University of Missouri- St. Louis, USA.

#### Reviewers:

(1) Payal Kahar, Florida Gulf Coast University, USA.

(2) Nalini Doppalapudi, CHC, USA.

Complete Peer review History: <https://www.sdiarticle4.com/review-history/74132>

**Study Protocol**

**Received 28 July 2021**  
**Accepted 02 October 2021**  
**Published 07 October 2021**

### **ABSTRACT**

**Background:** It is important for dental care providers to make the correct diagnosis and treatment of the oro-facial region. For treatment planning, it is very crucial to eliminate the risk factors. In this study, we will evaluate dental hygiene and para-functional habits in oro-facial pain among patients visiting Sharad Pawar Dental College and Hospital.

**Objectives:** To assess the prevalence of oro-facial pain associated with oral hygiene practices and para-functional habits among patients visiting Sharad Pawar Dental College and Hospital. Also, explore the co-relation of dental hygiene, para-functional habits, and oro-facial pain.

**Methodology:** Patients from Sharad Pawar Dental College and Hospital are sorted for study. The current study will randomly recruit male and female participants of Sharad Pawar Dental College and Hospital encountered with oro-facial pain and unfamiliar oro-facial pain contributors. That will be sorted out via the convenient sampling method. Procedures in the contemporary study will be overseen in full accordance with the Public Health Department at SPDC and former the wince data

collection, each contributor will be required to sign a written informed consent. Three interviewers will interview the contributors using a validated questionnaire at SPDC.

**Expected Results:** The expected result of this study will evaluate dental hygiene and para-functional habits of oro-facial pain among patients visiting Sharad Pawar Dental College and Hospital. In this study, we will evaluate the co-relation of dental hygiene, para-functional habits, and orofacial pain to find any significant association between these three factors.

**Conclusion:** This study will be conducted to assess the prevalence of orofacial pain associated with oral hygiene practices and para-functional habits among patients visiting Sharad Pawar Dental College and Hospital. Also we will evaluate the co-relation of dental hygiene, para-functional habits, and orofacial pain to find any significant association between these three factors.

*Keywords: Oro-facial pain; para-functional habit; risk factor; oral hygiene practices.*

## 1. INTRODUCTION

There are many risk factors which cause oro-facial pain and decrease the quality of life in an individual. According to several studies, dental hygiene and para-functional habits are the main aids which most likely cause oro-facial pain. Hence, this study will evaluate para-functional habits and dental hygiene as a cause of oro-facial pain. Oro-facial pain is defined as pain in the head, oral, face, and neck regions occurring in either soft tissue or hard tissue [1]. Due to its complexity in the oral and facial regions, it's a challenging condition to treat [2]. An overwhelming majority of people show a negative health-seeking behaviour towards oral disease [3]. In regard to morbidity and health service utilization, oro-facial pain is a significant burden. As a dentist, it is crucial to treat a variety of painful conditions occurring in the oral and facial regions [4-7]. For a proper approach, diagnosis is the first milestone. Pain transmission is distinct, for distinct causes make it more strenuous [8]. Brushing persistence, hint of chewing quality, food cohesion, presence of extra-oral abnormality, person who performed mouth care, and oral hygiene were all significant predictors of the presence of orofacial pain in dentate participants [9].

Impoverished dental wariness can lead to formation of Dental plaque, which is culprit in the wide spread prevalence of oral diseases which includes dentate oro-facial pain. Mouth rinse, toothbrushing, flossing is used to prevent formation of plaque [10]. Poor dental hygiene are prominently seen with people who consume tobacco. A questionnaire study done by deolia et al among 1000 patients (500 each of smoked and smokeless tobacco users) visiting Sharad Pawar Dental College and hospital, shows that 66.42% males and 56.17% females were psychologically dependent on smoke-less tobacco [11].

Apart from routine, every now and then a severe tooth discomfort problem can be detected. Because of the variety of depiction and pain broadcasting apparatuses, the variance verdict is critical for the establishment of a successful administration strategy [12]. The need to restore the empathy of a group of patients who were not clearly suffering from dental pain but did not appear to have a clearly defined treatment condition emerged over a period of years [13].

The 15-29-year-old age group is a fertile age group that is frequently exacerbated by oro-facial pain in terms of work efficiency among clusters of patients with oro-facial pain. This is according to research on orofacial pain and its influence on the population, which found that this age group had a high prevalence of orofacial pain [14]. Prior research on the impact of oro-facial pain on scheduled work events found significant connections between the severity and intensity of oro-facial pain and reduced work activities [15,16].

Grinding, anxiety, depression, chronic rife pain, and petulant bowel syndrome were all connected to the frequency of chronic oro-facial pain in individuals aged 18–75 years who were plagued by a wide-ranging practice in the North West of England, according to Anggarwai et al. [17].

The high incidence of orofacial pain at Sharad Pawar Dental College & Hospital, as well as the variance of results in previous research concerning the assessment of risk factors for orofacial pain. Other research has found that there are two primary risk factors: oral hygiene practices and para-functional habits. Previous research has emphasized the need to conduct an epidemiological study at Sharad Pawar Dental College & Hospital to establish the risk factors for the incidence of orofacial discomfort, which include parafunctional behaviours and oral hygiene practices [13,17].

## 1.1 Aim

Evaluation of dental hygiene and para-functional habits in oro-facial pain among patients visiting Sharad Pawar Dental College & Hospital: A questionnaire based cross sectional study.

## 1.2 Objectives

To assess the prevalence of orofacial pain associated with oral hygiene practices and para-functional habits among patients visiting Sharad Pawar Dental College and Hospital. Also, explore co-relation of dental hygiene, para-functional habits and oro-facial pain.

## 2. METHODOLOGY

Sample selection-

The following formula is used to calculate sample size,

$$\frac{\sqrt{n}}{E} = z_{\alpha/2} \times \sigma$$

In which,

$\sigma$  = previous expected values=20

E =desired Margin of error = 5

z  $\alpha/2$ , confidence interval of 90%, z = 1.65

n = sample size estimated 350

Patients from Sharad Pawar Dental College and Hospital are sorted for study. All Patients should be theoretically qualified for recruitment and arriving in the waiting areas of the dental hospital are going to participate in the study. The current study will randomly recruit male and female participants of Sharad Pawar Dental College and Hospital with oro-facial pain and not having oro-facial pain. That will be sorted via Convenient Sampling method. Procedures in the contemporary study will be overseen in full accordance to the Public Health Department at SPDC and former the wince data collection, each contributor requisite to sign a written informed consent. Three interviewers will interview the contributors using a validated questionnaire at SPDC. All participants demographical information such as, educational attainment [elementary school, junior high school, senior high school, college (3 years of higher education that resulted in a Diploma degree) and university (5 years of education that resulted in a Bachelor degree)], type of occupation (1: private sector worker; 2: entrepreneur; 3: labourer; 4: driver; 5: housewife; 6: government employee; 7: student;

8: unemployed; 9: health professional), as well as age and gender would be recorded.

The questionnaire consists of sixteen questions that evaluates oral hygiene habits and para-functional habits in oro-facial pain. All field researchers will be trained on how to conduct the interview properly before the study begins. After each question posed to the contributor, the reviewer will provide a quantitative explanation of the question's significance to the contributor. The following sections brought up the questionnaire: question no. 1 and 2 appraised the contributors past experience regarding the pain and treatment for it. It will differentiate contributors in a sort of oro-facial pain and not experienced oro-facial pain. Question number 3 to 10 evaluated the contributor dental health awareness, oral hygiene habits, consumption of alcohol/ kharra/ tobacco/ etc. and workout habits. As most common cause for dental oro-facial pain is dental hygiene. By asking these questions regarding dental hygiene we can determine about dental hygiene of the contributors whether it is good or poor and then correlate it with problem of oro-facial pain. Questions 11 to 16 evaluated the contributors oral para-functional habits like- unilateral chewing, bruxism, excessive gum chewing, nail and lip biting as well as clenching, habit of mouth breathing and tongue thrusting. If a contributor had a para-functional habits and which cause them oro-facial pain will appraise the pervasiveness of oro-facial agony in a patient with para-functional habits.

### 2.1 Inclusion criteria

1. Patients visiting Sharad Pawar dental college and hospital, having their demographic details.
2. Patients with or without oro-facial pain.
3. Patients with or without para-functional habits.
4. Patients with or without poor oral hygiene practices.

### 2.2 Exclusion criteria

1. Patients who are not from Sharad Pawar Dental College and Hospital.
2. Patients undergoing orthodontic treatment.
3. Patients having pain associated with wisdom teeth.
4. Edentulous patients.

## 3. RESULTS

The expected result of this study will -

1. Assess the prevalence of oro-facial pain associated with oral hygiene practices.

2. Assess the prevalence of oro-facial pain associated with para-functional habits.
3. Co-relation of dental hygiene, para-functional habits and oro-facial pain.

#### 4. DISCUSSION

A number of studies of the prevalence of dental hygiene and para-functional habits in oro-facial pain have been published from different parts of the world. The foremost goal for study was to find association amongst dental hygiene practices and parafunctional habits in Oro-facial pain among patients visiting Sharad Pawar Dental College and Hospital.

The relationship between Oral hygiene practices and general body ache has been shown to be bi-directional. Pain in the oral and craniofacial system is a fascinating medical and social dilemma. Indeed, a report by- the US Surgeon General on oro-facial health argues that "...oral health entails much more than good teeth.' It entails living a life free of chronic oral-facial pain..." Oro-facial pain is explicated as pain of head, oral, face and neck region occurring in either soft tissue or hard tissue. There are rather a variety of other less frequent but clinically recognizable forms of oro-facial pain that may be ascribed to a biological origin and that generally respond to intervention. In a prior study, the most often reported signs and symptoms of TMD were headache, neck discomfort, and toothache (46.2 percent).

Ahlberg et al. commissioned a survey on the disassociation among monitored oro-facial pain and reported bruxism, and reported that oro-facial discomfort experienced by research respondents throughout the Holocene era was significantly connected to patronize bruxism [18].

A further study-trusted source at the link between oral para-functional behaviors and painful TMD found that those who did two or three of them simultaneously moment was more likely to develop painful TMD. A recurring occurrence of this mechanism would result in an accumulation of substrates that will obstruct the intracellular pH and action potential conduction required for muscle activation [18]. Folks with a unilateral chewing habit showed higher manifestations and symptoms of TMD, as shown in a research by Reinhardt et al. [19].

In Sharad Pawar Dental College & Hospital, the distinction of fall-outs in prior studies concerning the fortitude of risk factor of oro-facial pain and

significant pervasiveness of oro-facial pain was established. Bestowing to other studies there are two foremost risk factors, its either oral hygiene practices or para-functional habits.

To reach the objective of study, that is-

To assess the prevalence of orofacial pain associated with oral hygiene practices and para-functional habits among patients visiting Sharad Pawar Dental College and Hospital. Also, explore co-relation of dental hygiene, para-functional habits and oro-facial pain.

We are executed questionnaire-based study.

In this study, 350 contributors are sorted with history of oro-facial pain and also unfamiliar contributors of oro-facial pain. Questions are listed in questionnaire which differentiate oro-facial pain in either dental hygiene or para-functional risk factor groups. Dental oro-facial pain mainly caused due to poor dental hygiene while non dental pain is caused due to para-functional habits. In dental hygiene we include brushing frequency, use of proper brushing aids, mouthwash, flossing, asking history of consumption of kharra/tobacco/bidi/cigarette. In para-functional habits we include clenching, bruxism, unilateral chewing, nail/lips/cheek biting, etc. As this study is performed under experienced oro-facial pain and unfamiliar categories, we can determine its risk factor via questionnaire. Whether it is via poor dental hygiene or para-functional habits.

#### 5. CONCLUSION

As the variance of results in previous research concerning the assessment of risk factors for orofacial pain. Previous research has emphasised the need to conduct an questionnaire based study at Sharad Pawar Dental College & Hospital to assess the prevalence of oro-facial pain associated with oral hygiene practices and para-functional habits. Also we will evaluate the co-relation of dental hygiene, para-functional habits, and orofacial pain to find any significant association between these three factors.

#### GENERALIZABILITY

External and internal validity are both significant throughout these studies.

## CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant/Patient's consent and ethical approval will be collected and preserved by the authors.

## COMPETING INTERESTS

Authors have declared that no competing interests exist.

## REFERENCES

1. Reissmann DR, Behn A, Schierz O, List T, Heydecke G. Impact of dentists' years since graduation on management of temporomandibular disorders. *Clin Oral Investig.* 2015; 19(9): 2327–36.
2. Romero-Reyes M, Uyanik JM. Orofacial pain management: current perspectives. *Journal of pain research.* 2014;7:99-1
3. Deolia SG, Kela KS, Sawhney IM, Sonavane PA, Nimbalkar G, Reche A. Evaluation of oral health care seeking behavior in rural population of central India. *J Family Med Prim Care* 2020;9:886-91
4. Shueb SS, Nixdorf DR, John MT, Alonso BF, Durham J. What is the impact of acute and chronic orofacial pain on quality of life?. *Journal of dentistry.* 2015 1;43(10):1203-10.
5. Oberoi SS, Hiremath SS, Yashoda R, Marya C, Rekhi A. Prevalence of various orofacial pain symptoms and their overall impact on quality of life in a tertiary care hospital in India. *Journal of maxillofacial and oral surgery.*2014(1);13(4):533-8.
6. Barros Vde M, Seraidarian PI, Côrtes MI, de Paula LV. The impact of orofacial pain on the quality of life of patients with temporomandibular disorder. *Journal of Orofacial Pain.* 2009; 23(1):28-37.
7. Kumar S, Badiyani B, Kumar A, Dixit G, Sharma P, Agrawal S. Orofacial pain and quality of life in early adolescents in India. *International Journal of Adolescent Medicine and Health.* 2018; 30(2):20160037.
8. Okeson JP. History and examination for temporomandibular disorders. In: Okeson JP, editor. *Management of Temporomandibular Disorders and Occlusion.* Mosby; St Louis: 2008;228–301.
9. Gremillion HA. Multidisciplinary diagnosis and management of orofacial pain. *General dentistry.* 2002;50(2):178-89.
10. Oberoi SS, Hiremath SS, Yashoda R, Marya C, Rekhi A. Prevalence of various orofacial pain symptoms and their overall impact on quality of life in a tertiary care hospital in India. *Journal of maxillofacial and oral surgery.* 2014;13(4):533-8.
11. Deolia S, Agarwal S, Chhabra KG, Daphle G, Sen S, Jaiswal A. Physical and psychological dependence of smokeless and smoked tobacco. *JCDR.* 2018;12:ZC01–4.
12. Macfarlane TV, Blinkhorn AS, Davies RM, Kinsey J, Worthington HV. Oro- facial pain in the community: prevalence and associated impact. *Community dentistry and oral epidemiology.* 2002;30(1):52-60.
13. Maulina T., Yubiliana G., Rachmi C.N., Wulansari D., Rikmasari R. A population-based study about the prevalence of orofacial pain and its association to demographical factors in West Java Province, Indonesia. *Int J Clin Dent.* 2016;9:171–182..
14. Constante HM, Bastos JL, Peres KG, Peres MA. Socio- demographic and behavioural inequalities in the impact of dental pain among adults: a population- based study. *Community dentistry and oral epidemiology.* 2012;40(6):498-506.
15. Maixner W, Diatchenko L, Dubner R, Fillingim RB, Greenspan JD, Knott C, Ohrbach R, Weir B, Slade GD. Orofacial pain prospective evaluation and risk assessment study--the OPPERA study. *J Pain.* 2011;12(11 Suppl):T4–11.e1-2.
16. Dworkin SF, Von Korff MR, LeResche L. Epidemiologic studies of chronic pain: A dynamic-ecologic perspective. *Annals of Behavioral Medicine.* 1992;14(1):3-11.
17. Aggarwal VR, Macfarlane GJ, Farragher TM, McBeth J. Risk factors for onset of chronic oro-facial pain--results of the North Cheshire oro-facial pain prospective population study. *PAIN®.* 2010;149(2):354-9.
18. Shephard MK, MacGregor EA, Zakrzewska JM. Orofacial pain: a guide for the headache physician. *Headache: The Journal of Head and Face Pain.* 2014;54(1):22-39.
19. Motghare V, Kumar J, Kamate S, Kushwaha S, Anand R, Gupta N, et al. Association between harmful oral habits

and sign and symptoms of adolescents. J Clin Diagn Res 2015;9:ZC45–8.  
temporomandibular joint disorders among

**Chart 1. A validated questionnaire at SPDC**

Sr. No.	Questions	Answers	
		Yes	No
1	Have you experienced orofacial pain since last 6 months?		
2	Have you consulted dentist for the treatment of orofacial pain?		
3	Do you brush your teeth regularly?		
4	Do you cleanse your teeth with toothbrush & toothpaste?		
5	Do you floss your teeth?		
6	Do you use mouth rinse?		
7	Do you consume sweets often?		
8	Do you consume alcohol?		
9	Do you consume cigarette /bidi?		
10	Do you consume tobacco/ kharra?		
11	Do you chew bilaterally?		
12	Do you chew gums on a daily basis?		
13	Do you have habit of nails/lips/pencil/cheek biting?		
14	Do you clench your teeth?		
15	Do you have a habit of mouth breathing?		
16	Do you have a habit of tongue thrusting?		

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*Peer-review history:*  
The peer review history for this paper can be accessed here:  
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