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ORIGINAL ARTICLE

Dental Profile Analysis of Young Indian Population

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ABSTRACT

Purpose of Study: To evaluate the prevalence of canine guidance & group function and various factors contributing to dento-facial aesthetics in young Indian population. **Methodology:** A questionnaire was designed including all the factors. Subjects were students of VSPM’s Dental College & Research Centre of age group 22-25 yrs. Total sample size was 100. **Result & conclusion:** Most prevalent type of occlusion was found to be Angle’s Type I & most common guidance pattern is bilateral canine guidance. The prevalence of Average smile line was found to be highest. Most prevalent shade was B2. Such studies should be widely conducted in all regions of the country to provide a baseline data for future reference.

Key Words: Indian, aesthetics, canine.

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Introduction

Occlusion plays the key role in functioning of stomatognathic system. Dental aesthetics, on the other hand, is also equally important & comprises of many factors¹. Prevalence of these factors in young Indian population remains un-investigated.

Hence, a study was planned to evaluate the prevalence of canine guidance & group function and various factors contributing to dento-facial aesthetics in young Indian population.

Methodology

A questionnaire was designed including all the factors. It was given to students of VSPM’s Dental College & Research Centre of age group 22-25 yrs. Total sample size 100.

Students with any extensive restorations or periodontal conditions or those undergoing any dental treatment were excluded from the study.

The Format of study was as follows [Table/Fig 1]:

Name-	Age/Sex-	Academic Year-
1. TEETH PRESENT Whether all 3 rd molars are erupted- YES / NO. 3 rd molars in occlusion- YES / NO		
2. TYPE OF OCCLUSION Class I / II / III Crowding / spacing / other- H/o orthodontic treatment- YES / NO		
3. LATERAL EXCURSION Right Side: Canine Guidance / Group occlusion. Left Side: Canine Guidance / Group occlusion		
4. DENTAL MIDLINE AND FACIAL MIDLINE Coinciding- YES / NO		
5. SMILE LINE: High / average / low		
6. TOOTH SHADE (Vita Classic) A (1-4) / B(1-4) / C(1-4) / D(1-4)		

Note: Human tooth colour lies in yellow-orange spectrum of visible light. The colour / shade has been divided into four categories referred as A, B, C, D (A being the least saturated with colour & D being most saturated & further subcategories 1,2,3,4 (1 being the

lightest & 4 the darkest). It can be determined manually with the help of shade guide of an electronic shade selection device².

Observations & Results [Table/Fig 2], [Table/Fig 3]:

(Table/Fig 2) Occlusal Criteria

Criteria	Prevalence	Prevalence	Prevalence
Type of Occlusion Molar Relation	Class I : 87%	Class II : 10%	Class III : 3%
Guidance during Laterotrusion	Bilateral Canine Guidance: 66%	Bilateral Group Function: 28%	Combination of canine guidance & group function on either side: 6%

(Table/Fig 3) Esthetic Criteria

Criteria	Prevalence	Prevalence	Prevalence
Smile Line	High: 9%	Average : 77%	Low: 14%
Tooth Shade	A : 34% A1: 12% A2: 15% A3: 7%	B:61% B1: 11% B2: 50%	C1: 5%
Midline	Coincided: 79%	Dental midline deviated from facial midline by +_2mm 21%	

Discussion [1-4]

Human dentition has evolved over centuries with respect to functional purpose i.e. eating, and also aesthetics. The shape & position of crown and roots of the teeth are no accident and have taken millions of years of evolution to acquire their current form and relationships.

As far as occlusion & masticatory function are concerned, the type of centric occlusion and the type of guidance teeth during eccentric excursion are critical for the stability of stomatognathic system. There are three basic types of molar relationships in **centric** occlusion as described by Angle.

Class I: where the mesiobuccal cusp of mandibular first permanent molar is ahead of mesiobuccal cusp of maxillary first permanent molar.

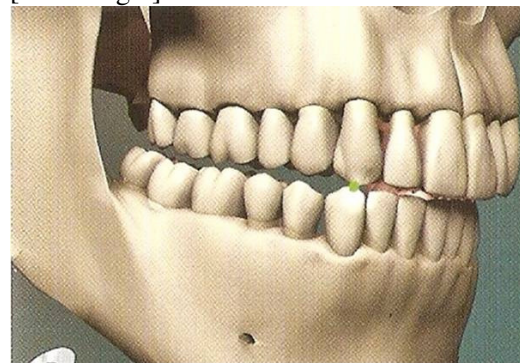
Class II: where the mesiobuccal cusp of maxillary first permanent molar is ahead of mesiobuccal cusp of mandibular first permanent molar. (maxillary prognathism)

Class III: where the buccal cusp of mandibular first permanent molar is ahead of mesiobuccal cusp of maxillary first permanent molar. (mandibular prognathism).

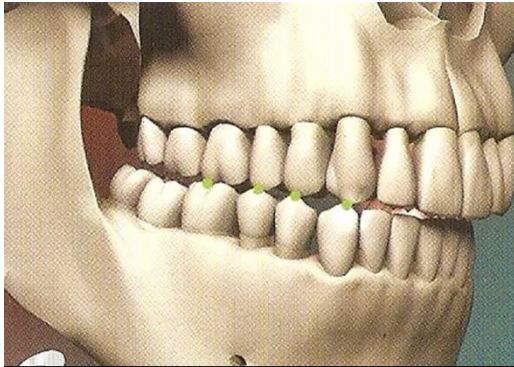
The masticatory function involves movement of mandible in all directions, most important of which is the one in medio-lateral direction, as it exerts the off-axis forces on teeth which if uncontrolled can cause damage to periodontium. The side towards which the mandible moves is the working side & the other is non-working side.

There are two basic types of contact patterns i.e. guidance, during lateral movement of mandible:

Canine guidance: only maxillary and mandibular canines of working side contact disengaging the other teeth [Table/Fig 4]



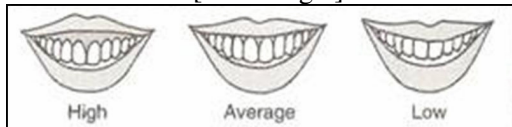
Group function: All teeth up to second molar contact on the working side [Table/Fig 5]



So, the present study revealed that in young adults the most prevalent type of occlusion is **Angle's Type I** & most common guidance pattern is **bilateral canine guidance**.

As far as, the aesthetic criteria are concerned the most prominent factors affecting the smile were evaluated.

The smile line is the curvature that is followed by upper lip during smiling. Average smile line displays the teeth till their cervical neck portion. A high smile line has excessive display of gingiva and a low smile line displays only limited amount of teeth [Table/Fig 6]



Captions:

- (Table/Fig 4)Fig 1 : Canine guidance
- (Table/Fig 5)Fig 2 : Group function
- (Table/Fig 6)Fig 3 : Types of smile line

The prevalence of **Average smile line** was found to be highest.

Another most important factor in dental aesthetics is the shade of tooth. In the present study the most prevalent shade was **B2** followed by A2 (Vitapan classic shade guide).

Symmetry also contributes immensely to the aesthetics of a dentition and in the

present study, in 79% of subjects the dental midline coincided with the facial midline.

Thus, all the key factors affecting the function and aesthetics of the dental arch were investigated in young adults, which can serve as a reference data for future treatment, as well as, research purposes.

Conclusion:

The prevalence of various dental parameters in healthy young dentition has been scantily reported in literature.

The present study analyses the dental profile with respect to key parameters affecting function and aesthetics.

Most prevalent type of occlusion is **Angle's Type I** & most common guidance pattern is **bilateral canine guidance**.

The prevalence of **Average smile line** was found to be highest.

Most prevalent shade was **B2**.

Such studies should be widely conducted in all regions of the country to provide a baseline data for future reference.

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