# Age Estimation Using Comprehensive Chart (DAEcc) For Dental Age Estimation In HARYANA Population - A Pilot Study

Introduction

Dental age estimation (DAE) in adults plays an important role in forensic odontology.
The method of DAE is simple, user-friendly, and a less time consuming method as compared to other age estimation methods, i.e. MP3 etc. This study was conducted in a Haryana population with the aim to check the applicability of the Demirjian method using DAEcc, i.e comprehensive chart.

Aims and Objectives

• To develop a comprehensive chart (DAEcc) inclusive of all Demirjian tables and developmental stages of teeth.

• To evaluate the Demirjian method in a HARYANA population using a comprehensive chart for dental age estimation (DAEcc) and establish age. correlation between the chronological age (CA) and estimated age

Materials and Methods

This study was conducted with an aim to assess dental age using DAEcc and to establish a correlation between CA and estimated age. A total sample of 100 panoramic radiographs (49 males and 51 females) were collected and evaluated, with age ranging from 7 to 16 years.

Using REGE-LED view box, tracings of 100 panoramic radiographs (only seven permanent left mandibular teeth 31–37) were done on tracing paper to see the calcification stages of the seven permanent left mandibular teeth.
T-tests were used to assess the difference between CA and estimated age . There were no significant differences between the two age categories when the whole sample was analyzed (P = 0.298). A strong correlation was found between CA and estimated dental age [Table 2]
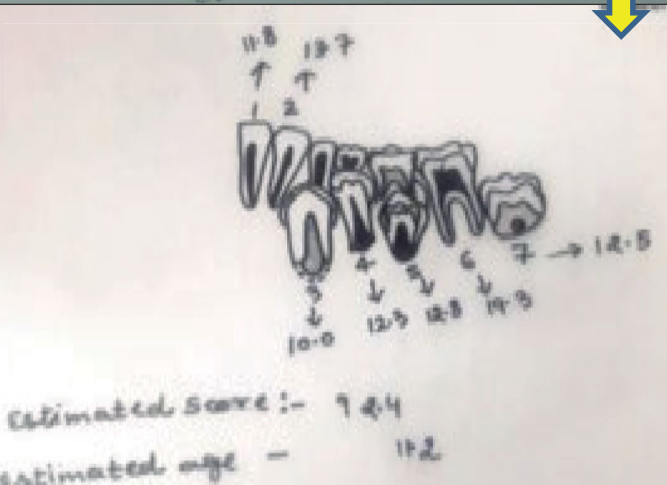
Results

Table 2: Comparison of chronological age and estimated dental age using paired _t_-test

	Mean	SD	Mean difference	_t_-Test	P
Chronological age (years)	14.16	1.54	−0.16	−1.047	0.298
Estimated age using the Demirjian method (years)	14.32	2.03			

SD: Standard deviation

Table 3b: Showing regression model for the whole study sample

	Sum of squares	df	Mean square	F	Sig.
Regression	100.122	1	100.122	73.599	0.000
Residual	133.318	98	1.360		
Total	233.440	99			

Conclusion

In light of the findings of this study, it can be concluded that in the evaluation of dental age, the phase of calcification can be a solid marker as the teeth logically calcify with age.

DAEcc Chart

1. Deepak P, Asha ML, Bhirwani S, Anupama, Raja JV, Srilakshmi J. Age Estimation By Measuring Open Apices of Lower Erupted and Non-Erupted Permanent Teeth Among 5-15 Years Old - A Digital Orthopantomograph Study. Med Res Chron 2015;2:633-64.
2. Chaudhry K, Agarwal A, Rehani U. Applicability of Demirjian's Method for Dental Age Estimation. Indian J Dent Sci 2014;3:1-4.
3. Cruz-Landeira A, Linares-Argote J, Martínez-Rodríguez M, Rodríguez-Calvo MS, Otero XL, Concheiro L. Dental age estimation in Spanish and Venezuelan children. Comparison of Demirjian and Chaillet's scores. Int J Legal Med 2010;124:105-12
4. Muller-Bolla M, Lupi-Pégurier L, Quatrehomme G, Velly AM, Bolla M. Age Estimation from Teeth in Children and Adolescents. J Forensic Sci 2003;48:1-9