

Abstract

Introduction

Estimating the chronological age of a person is very important in biological anthropology, forensic medicine, archeology and biology. And it has attracted the attention of researchers in different fields. Estimating the chronological age determines the probability of a person reaching the age at which he must respond to the legal system. This is one of the most important challenges for the judicial system. There are different methods to calculate the chronological age, hence the present study was conducted with the aim of radiographic evaluation of third molar growth in relation to chronological age in Iranian children and youth in Ardabil city in 1400.

Materials and methods

In this cross-sectional study, 202 patients referred to Ardabil dental clinics who met the conditions for entering the study were selected. People were divided into six groups (10-12 years, 13-15 years, 16-18 years, 19-21 years, 22-24 years, and 25 years). The chronological age was determined through birth certificates or valid documents provided by individuals. The developmental stage of third molar teeth (in both jaws and on both sides) in each radiographic stereotype was determined by an oral and maxillofacial surgeon and an oral and maxillofacial radiologist (together and simultaneously) according to the Demirjian method. The data were analyzed using SPSS24 software and determining frequency and frequency percentage, as well as t-test and Pearson correlation tests.

Results

There was a significant relationship between chronological age and growth stages and calcification stages. In both boys and girls, there was a significant relationship between chronological age and growth stages and calcification stages. The average chronological age, based on both growth and calcification stages, did not show a difference between the right and left sides. The stages of development of molars of mandible and maxilla (according to Demirjan) were similar. The minimum age of stage H (closure of root apex) was 17 years.

Conclusion

There is a relationship between chronological age and growth stages and calcification stages of third molars.

Keyword

Third molar, chronological age, stages of calcification