

Age assessment of young Somalians, born and living in Finland

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ABSTRACT

The first Somali asylum seekers arrived in Finland in the early 1990's following the mayhem of the civil war in Somalia. In 2015 there were 17,871 Somalis in Finland, and of all forensic age assessments performed in Finland, the Somalis represented the third most common ethnicity. At the moment, there are no dental development reference tables for Somali origin. The aim of the current study was to determine the dental development schedule of young Somali in order to establish a reference for forensic age assessment. This will be addressed by investigating young Somalis, born and living in Finland. Since dental development is extensively genetically regulated and little influenced by external factors, the approach will give applicable results regardless of place of birth or living. All individuals to become included were born in Finland after 1.1.1980, their both parents were born in Somalia and spoke Somali as their native language, and their permanent address was in Helsinki. According to the Finnish Population Register Centre, 2,115 persons fulfilled the above criteria. From this population 1,231 dental panoramic radiographs were found from 810 persons (413 females and 397 males) in the division of Oral health care of the Department of Social Services and Health Care in Helsinki. The age at radiography of the sampled subjects ranged between 3 and 23 years. The two specialist evaluating the X-rays were calibrated and the intraobserver error measured.

Methods:

- The development of all available wisdom teeth was staged according to Kohler et al. (1994). The development of the seven lower left permanent teeth (31 to 37) was staged according to Demirjian et al. (1973).
- A degree of third molar development was established for each subject using a Bayesian estimate of the random effect. It can be interpreted as its score on a latent factor underlying and summarizing the developmental stages of the four third molars.
- A Bayesian third molar age estimation model for the multivariate distribution of the stages conditional on age was established (Thevissen, Fieuws et al. 2010).
- A Bayesian permanent tooth age estimation model for the multivariate distribution of the stages conditional on age was established.
- The established models were validated and their age prediction performance quantified (Thevissen, Alqerban et al. 2010).