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The influence of age and gender on panoramic mandibular indices among the Libyan population

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Introduction: Radiographic Mandibular Indices serve as easy and relatively cheap tools for evaluating bone mineralization.

Objectives: To examine the effect of age and gender on three mandibular indices i.e., the panoramic mandibular index (PMI), the mandibular ratio (MR) and the mandibular cortical index (MCI) among Libyan population.

Methods: The three indices were measured on 318 digital (OPGs) of adult humans (157 male, 161 females). The sample was divided into six age groups (from 18-25yrs. through 56-65 years). The measurements were analyzed for interactions with age and sex, using SPSS (Statistical Package for Social Studies) software version no. 22. The tests employed were two way ANOVA, the unpaired T-test and chi-square test.

Results: The mean PMI fluctuated between 0.37 SD 0.012 and 0.38 SD 0.012 among the six age groups. One-way ANOVA statistical test revealed no significance of age on PMI. On the other hand gender variation has effect on PMI, since independent sample t-test disclosed that the difference between the male and female PMI means statistically significant. ANOVA test showed that the means of MR among age groups showed a negative correlation i.e., MR mean declined from 3.01 in 18-25 age group to 2.7 in 55-65 age group. In contrary, the gender showed no effect on MR according two sample t-tests at $p > 0.05$. In regards with MCI, statistical analysis showed that it affected by age that is C1 was decreasing by age while C2 and C3 were increased by age. Using chi square test the result indicated that there is a significant difference among the different age group and the two genders in MCI readings.

Conclusion: PMI was influenced significantly by age but minimally by the gender. MR is not affected by gender but has a negative correlation with age. MCI is affected by both age and gender.

Recent Publications

1. Mahfud F Mohamed, Abbadi A El-Kadi and Nabeel D Abo-Shamaa (2013) Root Resorption In Upper Incisors Related To En-Mass Retraction And Intrusion Using Miniscrews. *Cario Den J*; 29:315-21.
2. Mahfud F Mohamed (2013) Treatment of Gummy Smile Patients By Using Miniscrews Anchorage. E-Poster in the 13th annual meeting of American Association of Orthodontics (AAO).
3. Mahfud F. Mohamed. Gummy smile treatment, new and innovative approaches. Oral presentation in 11th annual meeting of Arab Orthodontic Society. 31-Oct. to 4-Nov. 2013, Beirut-Lebanon.
4. Mahfud F Mohamed (2014) Effect Of En-mass Retraction And Intrusion Using Miniscrews On Root Resorption Of Upper Incisors; A Prospective Study Using Cone Beam CT. E-Poster in the 14th annual meeting of American Association of Orthodontics AAO.
5. Mahfud F Mohamed and Maher A (2016) Histomorphometric And Biomechanical Analyses Of Self-Drilling Orthodontic Temporary Anchorage Devices (Tads), An Experimental Study presented in the 3rd scientific day of the faculty of dentistry University of Benghazi 6-7 February.

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6. Mahfud F Mohamed (2016) A Comparative Study Of Alveolar & Basal Bone Density Of Human Maxilla And Mandible Using Cone Beam Computed Tomography CBCT. Oral presentation in the 1st annual meeting of the Libyan section of the international association for dental research. Dec. 26-27, Benghazi-Libya.

Biography

Mahfud Farage Mohamed is a Consultant in Orthodontics and Research in the Field of Dentistry. He is interested in the research and biostatistics. He teaches orthodontics, biostatistics and research methodology for undergraduate and postgraduates. He is posted as Vice Dean for scientific and postgraduate studies in the faculty.

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