

**Abstract:****Title: Pattern of mandibular third molar impaction in Ardabil population.**

**Objectives:** Impacted third molar tooth (wisdom tooth) is a widespread phenomenon in which the third molar teeth don't fully erupt into the mouth because of blockage from other teeth that can cause damage to the adjacent teeth as well as the surrounding tissue. It is indeed very important to study the impacted teeth pattern in the community since it will help to develop appropriate treatment plan for individuals of the community. This study investigates the impacted molar pattern in the population of Ardabil.

**Methodology:** In this study, the panoramic radiography of 382 patients, ranging 18-40 years old and had a couple of third molar teeth were investigated. The patients were randomized from dentistry clinic in Ardabil Medical University, Dr. Baser and Dr. Mikaili radiology center. The radiographs were then investigated to collect quantitative data corresponding to angulation-of-impaction, depth-of-impaction, retromolar space, the distance between canal and inferior Alveolar, number of roots, shape and connection between the roots as well as the damages caused to neighbouring structure. The collected data were then coded to be analyzed using SPSS according to Chi-square distribution.

**Findings:** 42.4% and 57.6% of the patients, qualified to participate in the study, were male and female, respectively. The findings are summarized as follows: most of the cases had vertical angulation. with respect to depth of impaction, most of the teeth were categorized in Class-B. with respect to Retromolar space, most of the teeth were categorized as Class-II Pell-Gregory with respect to distance from Inferior alveolar, most of the cases were in the vicinity of the canal and had two separate canals. With respect to damage to neighbouring structure, most of the cases were categorised as radiographic bone loss.

**Results:** The data collected during this study suggest that there is no significant difference between men and women for angulation of impaction, Retromolar space, number of roots and the connection between them whereas the noticeable difference between men and women were observed for depth of impaction, distance from Inferior alveolar canal, shape of the roots and damage to neighbouring structure.

**Keywords:** Impacted tooth, wisdom tooth, panoramic view