

## Evaluation of depth of curve of Spee in a sample of Kurdish population in Sulaimani: “A cross sectional study”

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### Abstract

**Background and objective:** Curve of Spee (COS) is a normal anatomic curvature present in human dentition. This occlusal curvature has clinical importance in orthodontics and other fields of dentistry. There are no data about the mean curve of Spee in different malocclusion criteria or whether there is a difference between genders (Male and Female) and sides (right and left) in the Kurdish population in Iraq; therefore, this study aimed to evaluate and compare the depth of curve of Spee in class I, class II division 1, class II division 2, class II subdivision and class III., also to compare between genders and sides.

**Materials and methods:** A cross sectional study was conducted in the college of dentistry, University of Sulaimani and Peramerd special dental center in Sulaimani city, Iraq, from May (2016) to August (2016). A sample of 105 individuals was selected and according to the inclusion criteria was divided into the following five groups: Group A class I malocclusion (40 individuals), Group B class II division 1 malocclusion (19 individuals), Group C class II division 2 malocclusion ( 8 individuals), Group D class II subdivision (25 individuals), Group E class III ( 13 individuals). The depth of curve of Spee was measured as the perpendicular distance between the deepest cusp tip and a horizontal line drawn from the distobuccal cusp tip of the 2nd molar to the incisal edge of the anterior teeth in a lower dental study cast by using the AutoCAD software program. The measurements were taken on the right and left side and the mean value of these two measurements was used as depth of curve of Spee. The measurements were analyzed and statistically compared in SPSS version 19 by student "t" test ( $p < 0.05$ ).

**Results:** Mean depth of curve of Spee in class I malocclusion (1.58 ) mm, in class II division 1 malocclusion mean depth was (2.13 )mm, in class II division 2 mean depth was (2.54 )mm, in class II subdivision malocclusion mean depth was(1.79 )mm, and in Class III malocclusion mean depth was (0.93)mm . No statistically significant difference was found in the depth of curve of Spee between genders and sides.

**Conclusions:** The curve of Spee was deepest in class II division 2 malocclusion. Curve of Spee depth was not affected by sex or side.