## 24<sup>th</sup> International Conference on Dental Education

March 18-19, 2019 | Paris, France

## Artificial intelligence incorporated android smartphone software to detect skeletal and dental deformities

## Shetty Nishant

Syamala Reddy Dental College Hospital and Research Centre, India

**Background:** Orthodontists have been using cephalometric parameters to detect and classify malocclusions both skeletal and dental and also to decide treatment options.

Aim: The aim of the present study was to investigate the accuracy of the recently developed software 'IMEX CARE' in detecting malocclusions, using soft tissue cephalometric analyses and providing subsequent treatment options, so as to give the general public a tool to raise dental awareness.

**Methods:** For this purpose, a total of 100 patients who were aged between 15 to 40 years were examined of whom 55 were selected randomly in the Department of Orthodontics at SGR Dental College, Bangalore and the other 45 patients in a private clinical practice in Bangalore. Twenty five patients were recruited for each class of malocclusion i.e. I, II & III both dental and skeletal. An additional group of 25 patients aged between 6 to 14 years were also examined. These children had mixed dentitions and were at the stage of developing malocclusions which could, with proper diagnosis be treated with interceptive orthodontics rather than the 75 adult patients who were to be treated with corrective orthodontics to correct their fully developed malocclusions. The cephalometric parameters were measured and evaluated manually from a cephalogram by one orthodontist and treatment options were considered by the same orthodontist, without using the software. These results were crosschecked with those obtained using the software which is programmed to make calculations and provide treatment options from a single photograph taken on an android phone followed by marking a few soft tissue points by the user, in this case- the orthodontist.

**Results:** Ninety five percent (95%) of the results (cephalometric findings and treatment plans) obtained using the software were the same as those produced by the orthodontist using a manual approach.

**Conclusions:** The IMEX CARE software could provide a viable and inexpensive way to raise patients' awareness of malocclusions and could also provide general dentists with an indication of the type of extractions that an orthodontist might suggest. Further work is in progress to improve the accuracy of this software and also develop it further to predict growth.

Notes: