

**P-301**

**usefulness of 3D printed models of congenital heart diseases as educational tools for medical students**

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**Introduction** Multiple studies have demonstrated the feasibility and accuracy of 3D printed models in the field of congenital heart diseases. These models seem enhance conceptual 3D understanding of complex anatomy. Our aim was to evaluate the usefulness of these models as a teaching tool for medical students to improve learning of congenital heart diseases.

**Methods** During the education sessions of left ventricle outflow tract obstruction (LVOTO), students from 5<sup>th</sup> year of medicine were randomized in two groups. Each group (n=118) attended a 60 minute lecture of LVOTO. All students answered objective questions for pre- and post-lecture knowledge score evaluation, in addition to a subjective post-lecture survey questions regarding students comfort level with the subject. During the lecture, 3D printed models of different types of LVOTO were presented and analyzed by the students in the test group. Knowledge acquisition was evaluated by comparing pre and post-lecture knowledge score. Student's satisfaction and self-efficacy ratings were evaluated by the subjective post-lecture survey. The datas were analyzed and compared between the two groups using paired t-test.

**Results** There was no difference in pre-lecture objective test score between the two groups (score 8.32/14 vs. 8.35/14). After the lecture both groups improved their knowledge objective score, but was significantly higher in the test group than that of the control group (score 12.60/14 vs. 11.20/14 respectively p=0.04). Students in the test group were more satisfied with theirs understanding of the diagnosis (p=0.03) and treatment (p<0.01) of LVOTO pathologies.

**Conclusions** This preliminary study demonstrates the feasibility and the usefulness of 3D printed models as educational tools of congenital heart diseases for medical students.

