



## **Fetal cardiac function and exercise during pregnancy: A randomized controlled trial**

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### **Objective**

The objective was to examine the influence of moderate physical exercise throughout pregnancy on fetal cardiac function parameters.

### **Methods**

A randomized controlled trial was performed at Hospital de Torrejón, Madrid, including a total of 121 pregnant women, randomized into Exercise Group (EG) and Control Group (CG). The EG group women participated in a physical conditioning program throughout pregnancy. Fetal cardiac scans were performed at 20, 28 and 36 weeks in both groups. The primary outcomes measured were MPI, TAPSE, MAPSE, Tricuspid and Mitral E/A Ratios. Secondary outcomes measured included Aortic Artery velocity, Pulmonary Artery velocity, Ductus Arteriosus Pulsatility Index (PI) and Aortic Arch PI.

### **Results**

EG women resulted in higher Ductus Arteriosus PI at 20 weeks compared to CG women ( $2.40 \pm 0.36$  vs.  $2.25 \pm 0.33$ ,  $p = 0.037$ ). Also, Mitral E/A Ratio at 28 weeks was lower in EG women compared to CG women ( $0.679 \pm 0.092$  in the EG vs.  $0.691 \pm 0.069$  in the CG,  $p = 0.047$ ).

### **Conclusion**

Practicing regular exercise during pregnancy under a supervised program, does not negatively impact on the fetal cardiac function parameters, but it might impact on the DA blood flow. The clinical implication of this finding should be explained in future research.