

Physical activity during pregnancy: maternal haemodynamics and obstetrics outcomes

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Objective. Physical isometric activity causes a pressure overload and subsequent a physiological concentric ventricular hypertrophy; isotonic activity, due to a volumetric overload, leads to balanced four-chambers dilatation. Similar modifications also occur during pregnancy. Objective of this study is to evaluate haemodynamic changes and perinatal outcomes in pregnant women according to the quote of MET/h/week-1 spent during pregnancy.

Materials and Methods. This prospective multicentric study includes health pregnant women at term; exclusion criteria are maternal-foetal diseases or indication for elective CS.

To the women enrolled a validated "Pregnancy physical activity questionnaire" (PPAQ) has been administrated and the cohort has been divided in two groups: above and below the PPAQ value corresponding at the 75th centile (= 287.72 MET × h/week-1). Haemodynamics has been eval-

uated through USCOM. Obstetric and neonatal outcomes have been collected by electronic clinical charts.

Results. Maternal baseline in two groups shows that more nulliparous and more ART-concepted pregnancy less physical activity group.

Maternal haemodynamics in two groups differs by an higher VPK ($p = 0.003$) and trend for a lower SV ($p < 0.074$) in more physical activity group. In this group, also a lower rate of obstetric lacerations ($p = 0.002$) has been described as well as a trend for a lower rate of operative delivery intervention ($p = 0.075$).

Conclusions. The study describes that higher level of physical activity during pregnancy positively affects labour, reducing the risk of vagino-perineal tears, and the rate of obstetric intervention, without affecting maternal-fetal complications. USCOM parameters vary according to the quote of MET/h/week-1 spent.