



Assessment of fetal movements by the actograph and estimated fetal weight by ultrasound

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Objective

To quantify actograph output in healthy third trimester pregnancies and investigate this in relation to estimated fetal weight.

Methods

42 women between 24 to 34 weeks of gestation underwent an ultrasound growth scan followed by a computerized cardiotocograph (CTG). Post-capture analysis of the actograph recording was performed and expressed as a percentage of activity over time. The actograph output results were analysed in relation to estimated fetal weight (Hadlock) based on ultrasound and expressed as z score normalized for gestation.

Results

There was a significant association between actograph output recording and estimated fetal weight z-score ($R = 0.546$, $p = <0.005$). This activity was not related to estimated fetal weight.

Conclusion

Fetal movements assessed by the actograph are associated with fetal size in relation to gestation. It is not the case that larger babies move more, however, as the relationship with actograph output related only to estimated fetal weight z-score. Previous studies have suggested that optimal fetal size for perinatal survival is between the 80-90th centiles. Hence, average birthweight may not be associated with optimal fetal and perinatal health. If fetal movements are understood to be a marker of fetal health, then smaller babies that move less maybe at particular perinatal risk.