A33

The impact of age and nulligravidity on natural fertility in an older reproductive age cohort

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Objective: To examine the effect of age and nulligravidity on natural fertility Methods: A prospective, time-to-pregnancy cohort study of 30-44 year old women with no known history of infertility was conducted. Women (N=500), who had been trying to conceive for 3 months or less, completed a questionnaire at enrollment. They were followed without intervention until a positive pregnancy test or until censoring at 6 months of attempt. Time-to-pregnancy and fecundability ratios were determined using discrete Cox proportional hazard models. Results: The probability of conceiving by 6 cycles of attempt was greatest among women age 30-31 years of age (79%, 95% Confidence Interval (CI) 0.72, 0.84%, N=191) and lowest among women who were 40-43 years of age (42%, 95% CI 0.15, 0.60%, N=25). The impact of age differed by history of prior pregnancy. Women, who had previously conceived and were 38-43 years of age had 0.63 times the odds of conceiving in a given cycle compared to their younger counterparts. However, nulligravid women ages 38-43 had only 0.13 times the odds of conceiving in a given cycle compared to their younger counterparts (FR 0.13, 95% CI 0.02, 0.92). A prior pregnancy was a stronger predictor of fecundability among the older women (FR 6.42) than among the younger women (FR 1.31, 95% CI 1.03, 1.66). Conclusions: Natural fertility declines with age. The impact of aging is greatest among nulligravid women; however, this could be attributable to the movement of women out of the nulligravid group upon achieving a pregnancy, selecting out the more fertile and leaving the less fertile in the remaining nulligravid group.