ETHNICITY OR ENVIRONMENT? EFFECTS OF MIGRATION ON OVARIAN RESERVE AMONG BANGLADESHI WOMEN IN THE UK

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Inter-population differences in IVF success rates are often referred to as “genetic” or “racial” in origin. Such differences may, however, mask variation in environmental and/or developmental factors that affect adult reproductive function and fertility. We report here findings from a study of reproductive ageing comparing 93 first-generation, Bangladeshi women aged 35-59 living in London, UK who migrated as either children or adults, to women still living in Bangladesh (n=36) and a reference group of white London women (n=50). We examined levels of serum anti-Müllerian hormone, inhibin B, follicle-stimulating hormone and estradiol, and collected anthropometrics and extensive information about reproductive, demographic, lifestyle, health and migration histories. Results from a multivariate regression of hormone levels controlling for age, menopausal status, BMI, and religion shows that child migrants (F4,156= 3.605, p<0.01) and white women (F4,156=3.632, p<0.01) have a significantly larger ovarian reserve compared to women in Bangladesh and adult migrants. Self-reported exposure to infectious diseases during childhood was a significant predictor (F4,157=3.387, p<0.01) of ovarian reserve. Length of time spent in UK as an adult had no significant effect on hormone levels. These results show that Bangladeshi women from the same genetic background vary as much among themselves depending on their environment of development as they do from women of different genetic origin (Europeans). Variation in IVF success rates between ethnic groups may therefore reflect how developmental factors act to control the expression of genes. These distinctions have important policy implications for the application of assisted reproductive technologies.