EDUCATING PATIENTS ABOUT PREIMPLANTATION GENETIC TESTING FOR ANEUPLOIDY(PGT-A) -A PILOT STUDY

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BACKGROUND: Preimplantation genetic testing for aneuploidy (PGT-A) allows patients undergoing in vitro fertilization (IVF) to screen their embryos for numerical chromosome abnormalities. Currently, PGT-A educational tools vary based on the clinic and may include brochures, videos, group seminars and appointments. Concerningly, studies have shown inaccurate PGT-A patient knowledge and patient regret regarding PGT-A decision-making (1,2). Development of effective patient educational tools could improve informed consent, patient satisfaction and clinical efficiency. In this pilot study, we developed a novel, PGT-A educational handout to assess patient knowledge.

OBJECTIVE: To assess patient knowledge before and after reviewing our PGT-A educational handout.

MATERIALS AND METHODS: A comprehensive PGT-A educational handout and questionnaire were developed and reviewed for content, literacy level and readability by physicians, embryologists, genetic counselors, a patient education specialist, and statistical team. In preliminary studies of patients meeting the below eligibility criteria, we assessed and refined both the handout and tests in 69 patients for readability and comprehension. The final educational handout and tests were then used in a prospective study. Eligible patients included individuals or couples using autologous oocytes for their first IVF cycle, who had not previously discussed PGT-A with a genetic counselor and had no indication for other types of PGT. Potential subjects were recruited at their initial IVF consultation and consent was obtained from study participants. Subjects were allotted 25 minutes to answer questions for pre-test, prior to reading the handout, and post-test, after reviewing it. A paired student- test was used for analysis of results. Statistical significance was indicated by $p<0.05$. The study was approved by the University of Iowa Institutional Review Board.

RESULTS: Of the 30 potential subjects approached for our final phase, 26 agreed to participate. The average age of participants was 35 years. Most completed a graduate school education (40%) or college degree (36%) as their highest level of education, earned a $100,001-$200,000 annual household income (56%), and reported no prior knowledge regarding PGT-A (84%). The average questions answered correctly prior to review of the handout on the pre-test was 2.08 (SD 1.41) compared to 5.73 (SD 1.21) ($p<.001$). Mean difference is increase of 3.65 (95% CI: 3.01, 4.30) from pre to post (eta squared=0.67), indicating a large effect size with the number of correct questions increased between pre- and post-tests.

CONCLUSIONS: Given no standardized educational methodologies, this pilot study of a PGT-A educational handout shows improvement of patient knowledge, which is critical to informed

consent and patient decision-making. We now plan to compare this PGT-A educational handout to other PGT-A educational methods, including in-person counseling, in a prospective, randomized trial evaluating patient knowledge and patient satisfaction. (Word Count 433)

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