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RACIAL DISPARITIES IN SEMEN PARAMETERS AMONG COUPLES UNDERGOING IN VITRO FERTILIZATION

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OBJECTIVE:

While racial disparity in couples undergoing in vitro fertilization (IVF) has been well established, the association between race and male factor infertility is controversial. We aimed to characterize semen parameters among men of diverse racial groups undergoing IVF.

MATERIALS AND METHODS:

This retrospective study included all fresh ejaculate semen analysis (SA) of 8596 men undergoing an IVF cycle in a single academic institution from January 2016 to February 2022. Sperm samples were analyzed and described using standard laboratory procedures according to the World Health Organization guidelines (WHO 2010). Abnormal SA were stratified based on azoospermia, oligozoospermia, asthenozoospermia and teratozoospermia, diagnosis. Men with history of varicocele, testicular surgery, chemotherapy, and chromosomal abnormalities were excluded from the analysis. Samples obtained via testicular sperm extraction were also excluded. Age, BMI, self-reported race, days of abstinence preceding SA, method of collection, and SA parameters were collected. ANOVA, Duncan´s multiple range test, and logistic regression were used for the statistical analysis.

RESULTS:

A total of 8596 SA were included in the analysis (Table 1). Black men were significantly older (38.2 ±4.3 yrs, p=0.001) and had a higher BMI (30.1 kg/m2, p= <0.001) than men in other groups. Most samples (97.9%) were collected through masturbation after a prior mean abstinence of 3.7±4.5 days. No differences were identified in azoospermia, asthenozoospermia and teratozoospermia diagnoses. However, Black men had the highest incidence of oligozoospermia among groups (38% vs White 17%, Asian 16%, Hispanic 11.2%, other15%, non-specified 20%, p=<0.0001). In a logistic regression model adjusting for age and BMI, Black men

had lower odds of having anormal SA compared to White men (aOR=1.06, 95% CI 1.05-1.08, p=.03)..

CONCLUSIONS:

To our knowledge, this is the largest study analyzing SA of men undergoing IVF of different racial groups. Our data indicates that Black men are more likely to have abnormal semen parameters when compared to other groups.

IMPACT STATEMENT:

These data indicate that race remains a stratifying factor in reproductive health. Further studies underlying the mechanisms impacting male reproductive outcomes are warranted.

REFERENCES:

N/A