

Survey assessing obesity policies for assisted reproductive technology in the United States

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Objective: To determine what assisted reproductive technologies (ART) policies, if any, have been instituted in response to an increasingly overweight and obese patient population.

Design: Cross-sectional survey.

Setting: University-affiliated IVF clinic.

Patient(s): Women in the overweight and obese body mass index (BMI) categories seeking ART treatments.

Intervention(s): Anonymous survey sent to medical directors at 395 IVF centers listed in Society for Assisted Reproductive Technology database.

Main Outcome Measure(s): Assessment of recommendations, policies, and restrictions for patients who are overweight/obese and who desire treatment for infertility, including in IVF, IUI, and donor egg cycles.

Result(s): Seventy-seven anonymous responses were received (19.5% response rate): 64.9% of centers have a formal policy for obesity, and 84% of those have a maximum BMI at which they will perform IVF, while 38% of those have a maximum BMI for performing IUI; 64.6% of respondents reported anesthesia requirements/concerns as the primary criteria for patient exclusion. Other primary considerations included safety during ongoing pregnancy and ART outcomes.

Conclusion(s): Centers that have policies regarding obesity and access to ART consider efficacy, procedural safety, safety in pregnancy, and overall health status. Policies vary widely. The patient's autonomy must be balanced with non-maleficence and the avoidance of interventions that may be unsafe both immediately and long term. (Fertil Steril® 2016;105:703–6. ©2016 by American Society for Reproductive Medicine.)

Key Words: Obesity, BMI, assisted reproductive technology, policy

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The increasing rate of obesity among women has raised interesting questions regarding the ethics, safety, and efficacy of assisted reproductive technology (ART). In the United States, more than one half of pregnant women are overweight or obese (body mass index [BMI] over 25 or ≥ 30 , respectively), and 8% of reproductive-age women have class III obesity (BMI 40 or higher; the universally expressed unit for BMI, kg/m^2 ,

will henceforth be implied throughout and not written) (1, 2). IVF centers across the country routinely encounter patients within these classes of obesity, with BMI 30–34.9 representing class I and BMI 35–39.9 representing class II obesity (2).

Findings from a study of over 4,000 women suggest that most obese women are not infertile; many will present to an obstetrician with a spontaneous pregnancy (3). Simultaneously, there

is a clear relationship between body weight and anovulatory infertility, with the relative risk of anovulation increasing with increasing BMI at age 18; overweight and obese women will also present with subfertility at the IVF center (3).

Other published studies have confirmed that women in the overweight and obese BMI categories attempt to receive advice and treatment for infertility but suggest that there may be disparity in access to care based on increased BMI. Vahratian et al. examined the use of fertility-related services in the United States among female patients based on BMI (4). Data from the National Survey of Family Growth noted that 42.7% of women with class II/III obesity reported

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receiving fertility treatment, which was less than class I obese (64.0%), overweight (47.4%), and normal weight (58.9%) women, although the difference was not statistically significant (4).

Numerous studies have examined the efficacy of ART in the overweight and obese patient population, including both the female and male partners. IVF outcomes have been analyzed in observational studies and reviewed in meta-analyses. Overall results are conflicting and use heterogeneous inclusion criteria, classifications, and measurements for body habitus. Some reviews suggest that overweight and obese women in the infertility population experience lower live-birth rates, lower clinical pregnancy rates by 30%, higher miscarriage rates by 30%, and longer duration of stimulation, and they require higher doses of gonadotropins (5–8); however, other reviews find that evidence is insufficient with respect to miscarriage, live birth, cycle cancellation, and oocyte retrieval (9, 10).

Beyond the question of efficacy of ART in couples with obesity (11, 12), the important factor for the obstetrician is safety for the obese woman, both in reproductive treatment and throughout pregnancy (13). While most procedures required for ART are minimally invasive, they are not without risks that escalate with increasing body habitus. Anesthesiologists may have restrictions on their capabilities for in-office sedation for elective procedures. Equipment in the procedure room may only be designed for a safe maximum body weight. Ultrasound visualization of the ovaries can be more difficult in the obese woman, increasing the level of difficulty in accessing the ovaries and completing the procedure at the time of egg retrieval. Visualization of the cervix for ET or IUI may be more challenging, sometimes requiring special instruments. Finally, although obesity alone may not increase the risk for ectopic pregnancy, the potential for an ectopic pregnancy after ART requiring emergent surgery made more difficult by obesity should not be ignored.

After care has been transferred to the obstetrician, safety remains at the forefront. Studies of obese women with and without treatment for infertility show an increased risk of induction of labor, emergent cesarean delivery, postpartum hemorrhage, preeclampsia, hypertension, gestational diabetes, macrosomia, and venous thromboembolic events (1, 3, 13).

The overarching question, “Should BMI limit access to ART?” is one that encompasses ethics, safety, efficacy, and cultural competence. This study starts with the exploration of current policies. Professional organizations such as the American College of Obstetricians and Gynecologists and the American Society for Reproductive Medicine have yet to publish practice guidelines on this topic. Treatment decisions are made at the level of the provider or the clinic. The purpose of this study is to survey the IVF centers across the United States to determine what policies, if any, have been instituted regarding the performance of reproductive treatment in the overweight and obese patient population.

MATERIALS AND METHODS

An anonymous survey was sent by e-mail to medical directors at 395 IVF centers listed in the Society for Assisted Reproduc-

tive Technology database using surveymonkey.com. An additional reminder e-mail was sent 2 weeks after the initial survey e-mail. The questions addressed recommendations, policies, and restrictions for patients who are overweight/obese and who desire treatment for infertility, including IVF, IUI, and use of donor eggs. Respondents were asked to describe what measurements of body habitus are included in policies and what primary factors were considered in creating a policy. See [Appendix 1](#) for the survey, written by the team conducting the study and not validated or correlated with any other published studies. Each question was optional, and responses for specific questions could be omitted at the respondent’s discretion; totals and proportions did not include an assigned value for omissions. The data are presented as proportions, and Fisher’s exact is used for categorical variables. $P < .05$ is considered statistically significant. The study was approved by the University of Connecticut Institutional Review Board.

RESULTS

Seventy-seven surveys were received, with a 19.5% response rate. Of the respondents, 58.4% perform 100–499 fresh ART cycles per year; 19.7% of respondents practice in a mandated state as of 2014. [Table 1](#) reviews the center size based on the presence or absence of a formal obesity policy. Groupings into center size based on number of cycles annually were chosen arbitrarily.

Fifty centers (64.9% of respondents) have a formal, written policy for obesity and offering reproductive treatment, including IVF, IUI, and donor egg recipient cycles. There were no larger centers (greater than 1,000 fresh cycles per year) without an obesity policy; 73% of centers in mandated states have policies, while 49% of centers in states without mandates have policies. Of those centers with policies, 64.0% depend specifically on BMI as the measurement of overweight or obese body habitus; 30.0% consider BMI combined with other criteria. Other criteria included actual weight (38.9%), neck/abdomen/waist circumference (3.9%),

TABLE 1

Demographics of respondent centers by obesity policy.

Variable	Has obesity policy (n = 50)	Does not have obesity policy (n = 27)	Total (n = 77)
No. of fresh ART cycles per year			
<100	7 (50.0)	7 (50.0)	14 (18.2)
100–499	27 (60.0)	18 (40.0)	45 (58.4)
500–999	8 (80.0)	2 (20.0)	10 (13.0)
1,000–1,499	1 (100.0)	0 (0.0)	1 (1.3)
1,500–2,000	3 (100.0)	0 (0.0)	3 (3.9)
>2,000	4 (100.0)	0 (0.0)	4 (5.2)
Mandated state ^a			
Yes	11 (73.3)	4 (26.7)	15
No	38 (62.3)	23 (37.7)	61
Anesthesia department has obesity policy ^a			
Yes	31 (79.5)	8 (20.5)	39
No	16 (47.1)	18 (52.9)	34

Note: Data are n (%).

^a Totals may not add to 100 due to response omitted by respondent.

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