Gamete donation: current practices, public opinion, and unanswered questions

The landscape of family building, pregnancy and conception has changed dramatically in this century. Over the past 20 years, the number of births from gamete donation has increased exponentially from 30,000 to 60,000 in the United States (1). However, such numbers are merely estimates and are likely to be poor estimates because there are few tracking systems. Additionally, in the 1980s and 1990s the majority of U.S. recipients of donor sperm were straight, married couples experiencing infertility. Presently, estimates suggest the majority of donor-sperm users represent a different demographic: 50% single women and 33% same sex or transgender couples. Further, the number of sperm banks has increased, and the creation of the Donor Sibling Registry (DSR) has paved the way for offspring from the same donor to connect. The DSR reports that among its registrants 94% of families used sperm donation, 5% used donated oocytes, and 1% used donated embryos.

As gamete donation becomes more common, it is important to examine issues such as financial compensation, "tracking" of donors, and overall experiences of the donors, recipients, and offspring. Sperm donors in the United States may be paid $25 to $100 for each viable sample, and they are generally expected to provide one or more donations per week over 6 to 12 months. The donors may choose to remain anonymous though the compensation is higher for those who agree to an "open donation." Oocyte donors are paid between $5,000 and $30,000. At present there is no limit on the number of donations or amount of compensation for donors in the United States, but many other countries have tight regulations regarding gamete donation. For instance, in the United Kingdom, the Human Fertilization and Embryology Authority (HFEA) tracks all cases of egg and sperm donation and does not allow for anonymous donation (2). In 2014, there were 586 new sperm donors, 1,103 egg donors, and 533 women participating in "egg sharing," which consists of receiving reduced the cost of IVF treatment for themselves in exchange for sharing unused eggs (2). The HFEA also currently imposes a £250 cap on donor compensation.

Lee et al. (3) recently conducted a survey of a nationally representative sample of U.S. residents to inquire about their attitudes toward financial compensation for gamete donors. Respondents were asked about the acceptability of gamete donation and compensation for donors. From 1,427 respondents, 86% thought the use of donor gametes was acceptable. Eighty percent of these individuals thought sperm donors should be paid, and 90% thought oocyte donors should be paid. The most common reasons cited for compensating oocyte donors were medical risks and time and effort spent undergoing the procedures. Just under half of respondents felt it was important to incentivize oocyte donors to increase parenthood options for those experiencing infertility, and this was the most common reason given to compensate sperm donors (3).

Based on data presented by Lee et al. (3), a near majority of the American population believes gamete donors should be compensated. The majority of individuals suggest the compensation should not exceed $10,000, and that oocyte donors should be paid more than sperm donors. The desired compensation difference may be due to the method of procuring the gametes. Sperm, for donation purposes, is collected through ejaculation whereas oocyte donation requires a more invasive procedure and carries much higher medical risks. Another notable finding of the study was that the majority of respondents underestimated the cost of adoption in the United States, which may impact perceptions of a "fair" price for gamete donation (3). Some of the concerns raised with offering large sums of money for gamete donation include having people donate gametes solely to receive financial compensation, coercing individuals who need the money and may overlook risks of donation and/or regret their decisions later, or creating situations where people may hide parts of their medical or social histories to qualify for donation. While Lee et al. address some key issues, several questions remain unanswered.

1. What are the implications of providing higher compensation for "more attractive" donors? Does this assign a higher "value" to babies born to a parent from a higher socioeconomic status/education level or with certain physical attributes? Would imposing a flat rate be more ethical, or is a supply/demand approach reasonable?
2. Although anonymous donation is discouraged financially and otherwise, should it still be permitted? Do all children have a right to learn about their genetic background and biological family's medical histories? Further, should concerns about inadvertent consanguinity (as a result of half-siblings having a child) impact policies about anonymous donation? In a previous study where parents, donors, and offspring were surveyed through the DSR, many respondents (especially offspring) felt that tracking this information was a "fundamental right" and that anonymity should be banned (4).
3. Should there be a limit on the number of offspring/number of donations? Some opinions on gamete compensation suggest people will take advantage of the opportunity to oversell themselves for the sake of economic return (5). If the concern about compensation rests on the idea that donations would be overdone, the restriction could be on the number of times one can donate gametes, not on whether one can be paid for the service (5).
4. Should gamete donation be comparable to other forms of biomatter such as blood, bone marrow, and organ (e.g., kidney) donations, which are unpaid? Or is comparing gamete donation to other forms of biospecimens difficult, considering the nature of the biomatter being donated? Is the ability to create a child worth more than providing a kidney to a stranger with renal failure? Although gamete donation is not as invasive as organ or bone marrow donation, it is essentially the removal of part of oneself. While uncompensated types of donation are considered altruistic, how are paid donations regarded?

Though organizations such as the American Society of Reproductive Medicine have published guidelines regarding gamete donation and compensation, there are wide variations in practice, and many ethical questions remain unanswered. The process of gamete donation should be examined more

closely to ensure best practices relating to donors, recipients, and, most importantly, offspring.

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