Use of reproductive technology for sex selection for nonmedical reasons

Ethics Committee of the American Society for Reproductive Medicine

American Society for Reproductive Medicine, Birmingham, Alabama

Because these practices are ethically controversial, clinics are encouraged to develop and make available their policies on the provision of nonmedical sex selection, and to accommodate their employees' decisions about whether or not to participate in such treatment. Practitioners offering assisted reproductive services are under no ethical obligation to provide or refuse to provide nonmedically indicated methods of sex selection. This document replaces two documents previously published by the ASRM Ethics Committee, titled, "Sex selection and preimplantation genetic diagnosis" (Fertil Steril 2004;82:S245–8) and "Preconception gender selection for nonmedical reasons" (Fertil Steril 2004;82:S232–5). (Fertil Steril® 2015;103:1418–22. ©2015 by American Society for Reproductive Medicine.)

Key Words: Premiplantation genetic testing, ethics, gender, assisted reproductive technology, in vitro fertilization, family balancing

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KEY POINTS

- Nonmedical use of preconception sex selection and in vitro fertilization (IVF) with preimplantation genetic screening (PGS) for sex selection are controversial practices.
- The ASRM Ethics Committee recognizes that there are reasoned differences of opinion about the permissibility of these practices and does not have a consensus on the permissibility of these practices.
- The primary purpose of this document is to outline arguments for and against these practices as a benefit to ASRM members.
- Because these practices are ethically controversial, clinics are encouraged to develop and make available their policies on the provision of nonmedical sex selection, and to accommodate employees' decisions about whether or not to participate in such treatment.
- Practitioners offering assisted reproductive services are under no ethical obligation to provide or refuse to provide nonmedically indicated methods of sex selection.

BACKGROUND

Recent advances in preconception and preimplantation technologies make it clinically possible for parents to select the sex of their future child. Although sex selection can be an effective means of avoiding the birth of a child with a sex-linked genetic disorder, this report focuses on the use of sex selection technologies for nonmedical reasons. The two primary methods that aid in the selection of a child's sex are preconception sperm separation, done most effectively through flow cytometry that yields enriched sperm populations for insemination, and preimplantation genetic screening (PGS) in which embryos are screened for aneuploidy and the identity of sex chromosomes (1). A patient's use of preconception sex selection, in the absence of family history of a sex-linked genetic disorder, can be viewed as a discretionary use of medical technology to fulfill parental desires about the sex of future offspring. Use of PGS likewise may be discretionary in the case of a patient with no medical indication for in vitro fertilization (IVF), or it may be conducted in connection with a medically indicated IVF cycle in which the patient elects to pursue genetic evaluation of embryos.

Reproductive medical care continues to evolve in its capacity to offer patients information about the characteristics of their future offspring. As these technologies emerged, this Committee published reports addressing some of the ethical, clinical, and legal aspects of sex selection for nonmedical reasons. A 1999 report of this Committee approved the use of what it termed preimplantation genetic diagnosis (PGD) for sex selection in order to avoid the birth of children carrying sex-linked disorders (2). The sex selection in such cases is directly linked to the medical indication for the use of PGD.

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This same opinion determined that the use of PGD for sex selection when patients are already undergoing IVF for medical reasons should "not be encouraged." This Committee also specifically determined that the initiation of IVF with PGD solely for sex selection purposes should be discouraged because of risks of gender bias and social harm. Two years later, in a 2001 report, this Committee analyzed preconception methods for sex selection, such as sperm sorting. At that time, the Committee regarded these methods as experimental but concluded that "sex selection aimed at increasing gender variety in families may not so greatly increase the risk of harm to children, women, or society that its use should be prohibited or condemned as unethical in all cases" (3). This report also concluded that clinics should be permitted to offer preconception sex selection for nonmedical reasons to couples seeking gender variety in the family—that is, for couples seeking to have a child of the gender opposite of an existing child or children. This conclusion was based on the judgment that concerns about sex selection were less strong when the practice was offered to parents who wished to have a child of the opposite sex to their existing child(ren).

Survey data indicate that some assisted reproductive technology (ART) clinics in the United States are offering patients access to sex selection for nonmedical reasons (4). As discussed below, practitioners and commentators have expressed concern about the availability and use of techniques that offer no medical benefit to offspring, and may produce harm to one or more ART stakeholders. Consequently, fertility clinics are continuing to seek guidance in this controversial area (4). In this report, the Ethics Committee reviews the ethical arguments for and against sex selection for nonmedical reasons but does not reach consensus about the permissibility of using ART for sex selection for nonmedical reasons. The ongoing debate over nonmedical sex selection occupies a realm in which ethical principles and legal precedents in many jurisdictions neither require nor prevent practitioners from offering these technologies to interested patients (5). The arguments outlined below are offered to assist ART practices and practitioners as they consider or revise their policies on the provision of sex selection for nonmedical reasons.

ARGUMENTS SUPPORTING THE PERMISSIBILITY OF THE USE OF ART FOR SEX SELECTION FOR NONMEDICAL REASONS

The preeminent ethical considerations that support patient choice of sex selection for nonmedical reasons are patient autonomy and reproductive liberty. Parents may have many important reasons for wanting to select the sex of their offspring (6–9). The experience of rearing a child of a given sex may matter a great deal to them. They may wish to balance their family in order to have the experience of raising children of both sexes. The desire for balancing may be especially strong for couples who have already had several children of one sex and who are unwilling to attempt a further pregnancy without assurance that the additional child will be of the preferred sex. In such cases, sex selection is a material aspect of that person's reproductive decision making.

Discretion in determining the sex of embryos and selecting those for continuation into pregnancy is a deeply private reproductive matter (10). Having access to technologies that enable individuals to shape the course of their pregnancy and child-rearing experience may be embedded in the concept of constitutionally protected reproductive liberty and thus not amenable to infringement by the government or those who operate as state actors. Policing the underlying attitudes among individuals with preferences for the sex of a child may be judged to be beyond the scope of fertility care as a practical matter, and may violate patient autonomy and privacy when applied to evaluating individual circumstances (11).

Moreover, preference for the sex of a given offspring need not necessarily reflect discriminatory attitudes or intent. Parents may reasonably believe that there are differences between the experience of rearing male and female offspring; such beliefs cannot be seen inherently to promulgate discrimination. Parents may have many different reasons to wish to parent a child of a particular sex at a given point in their reproductive lives, reasons that do not necessarily reflect gender bias (8, 9, 12). It has also been argued that these preferences are not inconsistent with unconditional parental love (9).

For parents who are particularly determined to have a child of a given sex, several ART alternatives are possible. Preconception methods include means of sperm sorting. Patients already undergoing IVF for medical reasons may seek to add PGS for sex selection. Patients who are otherwise capable of natural conception may also seek IVF coupled with PGS for sex selection purposes only. Preconception or preimplantation sex selection may also serve to avoid abortion for purposes of sex selection. Patients who wish to avoid abortion for medical or ethical reasons but who desire to select the sex of their offspring may look to preconception methods or PGS for sex selection before a pregnancy is established.

ARGUMENTS AGAINST THE USE OF ART FOR SEX SELECTION FOR NONMEDICAL REASONS

The primary arguments against the use of PGS for nonmedical sex selection are harm to offspring, harm to women and also to men, misuse of medical resources for nonmedical purposes, and risks of discrimination and perpetuation of social injustice (11).

One possible objection to the use of ART for sex selection for nonmedical reasons is that the long-term medical risks of some procedures to offspring are unknown and that it is therefore unjustifiable to take any such risks for nonmedical reasons. Although sperm-sorting technology has been used in animals for over 20 years and is in use in several locations outside of the United States, the US Food and Drug Administration (FDA) has not approved the technology (11). When PGS and IVF are used to avoid the conception of a child with a sex-linked genetic disease, by contrast, risks of the procedure are balanced against the benefits of avoiding disease. Long-term risks of PGS and IVF to the offspring are unknown; at present no serious risks have been identified, but the possibility of risks should continue to be evaluated

(13–18). In addition, the technology is imperfect and, although rare, diagnostic errors can occur. In cases in which IVF is medically indicated, risks to the woman undergoing treatment are balanced against medical benefits of the procedure either for achieving a pregnancy or for avoiding the birth of a child with inherited disease. Where IVF is undertaken solely for the purpose of sex selection, however, the pregnant woman bears these risks for nonmedical reasons. This concern alone is insufficient to conclude that the procedure is unethical, as it is ethically permissible for oocyte donors to undertake comparable risks without medical benefit to themselves. The risks of IVF are, however, sufficient to require that, in cases in which a prospective patient contemplates the procedure for nonmedical reasons, she must be fully counseled about the likely risks of the procedure. Counseling must also address the concern that the woman might be pressured into taking the risks of IVF for sex selection because of her partner's strong preferences or social pressures for a child of one sex or the other.

Other commentators raise the concern that PGS for purposes of sex selection fails to show appropriate respect for embryos (19, 20). A survey of public attitudes found that 68% of Americans disapprove of the use of PGS for sex selection only (21). A recent review article cites a German study finding that only 8% approved of the use of PGS for nonmedical reasons (22). In the United Kingdom, public opposition to sex selection has also been cited to override claims to reproductive autonomy (23). Commentators have argued that in order to override concerns about respect for embryos, any reasons for the use of PGS must be very strong, and sex selection may not rise to this level (24). Critics have also argued that sex selection fails to evidence unconditional parental acceptance of their children in appropriate respects (25–27). A related argument is that unconditional parental love requires love for offsprings' characteristics in a manner that is independent of the parent's wants or preferences (28). Commentators also are concerned that this use of medical resources for nonmedical reproductive purposes represents a "slippery slope" toward selection of many other traits in offspring in a manner that would be ethically problematic (29, 30).

Relatedly, commentators are concerned that ART for purposes of sex selection may deny the resulting child a right to an open future (20, 29, 30). These commentators are concerned that parents engaging in sex selection may impose inappropriate gender norms on their children and reinforce ideas of gender essentialism such as that there are certain characteristics inherent in being female and others inherent in being male (30). The imposition of such gender norms may be psychologically harmful to children and disruptive of the parent-child relationship. The American Congress of Obstetricians and Gynecologists (ACOG) opposes sex selection for nonmedical reasons from the concern that it will result in prejudice against female children (31). This argument, however, does not apply to the use of sex selection in the absence of such bias (19). In 2001, the American Society for Reproductive Medicine (ASRM) judged that such bias may be less evident where sex selection is used for family balancing (3). Other commentators have also noted that sex selection used for family balancing may raise lessened concerns about the child's right to an open future (32). However, the connection between the absence of bias and family balancing may be questioned. Sex selection need not be performed for "balancing," per se, to be free of discriminatory basis. Rather, gender preference may seek an unbalanced sex number among offspring in response to parental preference without necessarily reflecting discrimination. On the other hand, parents who are sufficiently concerned to balance the sex of their offspring to seek IVF and PGS may be motivated by discriminatory attitudes toward a particular gender (6).

SOCIAL JUSTICE CONCERNS

Sex selection for nonmedical reasons also may be thought to implicate the ethical principle of justice because it may result in significant gender imbalances in society, with resulting concerns about social stability. Other justice concerns are that medical practices enabling sex selection may utilize resources otherwise available for the treatment of infertility or that the practice may only be available to those with the resources to pay for it.

In the United States, the legality of ART for sex selection for nonmedical purposes is currently a matter of state law. Although in the United States at present no states prohibit the practice legally, it is worth noting that the practice is prohibited in Canada and in a number of European countries, although regulations vary widely in Europe, and free movement within the European Union is a complicating factor (33, 34). It is permitted in Israel by approval in rare cases (35). A 2008 report of the (now defunct) New Zealand Bioethics Council, *Who Gets Born?* argued that the practice should be permitted (36).

Concerns about risks of gender bias and social injustice are significant, at least within certain populations. The recognition that many girls are "missing" in countries such as China and India as a result of infanticide, abortion, and efforts to achieve preconception sex selection is longstanding (37, 38). Social context is relevant to the relationship between sex selection and gender discrimination. In contexts in which there is not a preference for males, prenatal diagnosis for sex selection may not be sexist or harmful to women (39, 40).

Gender discrimination is not as deeply intertwined with economic structures in the United States today as it may be elsewhere. A US survey conducted in 2004 indicated that there is not a dominant preference for males over females (50% wished to have a family with an equal number of boys and girls, 7% with more boys than girls, 6% with more girls than boys, 5% with only boys, 4% with only girls, and 27% had no preference). This survey also indicated that a very small percentage (8%) was interested in using prenatal sex selection and that this interest related predominantly to family balancing (41). Nonetheless, ongoing problems with the status of women in the United States make it necessary to understand concerns for the impact of sex selection on goals of gender equality. Moreover, there may be subgroups within the United States or other advanced industrialized

countries in which gender oppression continues to motivate requests for sex selection (42–47). A related concern is that prospective parents who are not residents of the United States, but who are residents of countries where there is significant gender injustice, may come to the United States seeking sex selection for nonmedical reasons. Providers considering offering the practice must be aware of these possibilities and counsel patients to be sure that consent is informed and that patients are not subject to coercion in choosing the procedure.

It is difficult to argue that the addition of sex-selection technology to ART being performed for medical reasons results in an important limitation of health resources. Pursuit of ART solely to enable sex selection may entail a more substantial effect on health care resources, however. Though it seems unlikely that such use of ART would result in limitation of availability of infertility care in the United States, it is not clear that such use, if prevalent, would be without effects on the availability of ART for more fundamental infertility care needs in situations where ART resources are less available and cultural pressures for sex selection greater. From the perspective of justice, it is important to ensure that a provider's decision to offer ART for sex selection for nonmedical reasons does not adversely affect access to the service for medical reasons. In addition, any decision to offer the service must apply policies regarding nonmedical sex selection equally to all patients regardless of race, ethnicity, religion, sexual orientation, or marital status. An additional justice concern is that the use of ART for sex selection may be as a practical matter only available to those with the economic resources to pay for it.

In conclusion, ART practitioners who currently offer or decline to offer sex selection for nonmedical purposes do so against a varied ethical and legal backdrop. Recognizing reasoned differences of opinion, the ASRM Ethics Committee has not reached consensus on whether it is ethical for providers to offer ART for sex selection for nonmedical purposes. Arguments regarding patient autonomy and reproductive liberty have been offered in support of the practice. Risks and burdens of the procedure, gender bias, sex stereotyping and nonacceptance of offspring, efforts to guard against coercion, and issues of justice all raise concerns about the practice. Practitioners must take care to ensure that parents are fully informed about the risks and burdens of the procedure and that they are not being coerced to undergo it. Because the practice is so controversial, clinics are encouraged to draft and make available written policies setting forth whether and under what circumstances nonmedical sex selection will be available. When nonmedical sex selection is offered in clinical practice, clinic employees with objection to the technique must be permitted to absent themselves from its provision.

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This document was reviewed by ASRM members and their input was considered in the preparation of the final document. The following members of the ASRM Ethics Committee participated in the development of this document. All Committee members disclosed commercial and financial relationships with manufacturers or distributors of goods or services used to treat patients. Members of the Committee who were found to have conflicts of interest based on the relationships disclosed did not participate in the discussion or development of this document.

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