

Preconception gender selection for nonmedical reasons

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For centuries, attempts have been made to choose the gender of offspring, but not until the 1970s did effective prebirth gender selection become possible through prenatal diagnosis and abortion. More recently, preimplantation techniques to determine the sex of embryos for transfer have been established (1, 2). Because these methods require either prenatal diagnosis and abortion or a costly cycle of in vitro fertilization (IVF) and discarding of embryos, they have been used primarily by persons seeking to avoid having children with X-linked genetic diseases. A safe and effective means of separating X- and Y-bearing sperm before in vivo artificial insemination or IVF is more likely to be sought by persons contemplating reproduction, for it causes no destruction of prenatal life and is less intrusive and costly than other methods. The use of preconception techniques for nonmedical gender selection raises important ethical and social concerns that need thorough attention before these techniques become available for nonmedical purposes.

After describing preconception gender selection techniques, this report will discuss the ethical arguments for and against the use of such techniques. Drawing on the Ethics Committee's previous analysis of preimplantation genetic diagnosis for sex selection, it recognizes the serious ethical concerns that such a practice raises and counsels against its widespread use. It concludes, however, 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.

PRECONCEPTION TECHNIQUES

Many methods of preconception gender selection through sperm separation have been tried, such as albumin gradients, Percoll gradients, Sephadex columns, and a modified swim-up technique. None has shown consistent X- and Y-sperm cell separation or validated success in producing offspring of the desired gender. In spite of the lack of demonstrated efficacy, some centers in the United States have continued to use these methods, basing their projections of success on highly questionable data that could mislead patients.

Attention has also focused on flow cytometry separation of X- and Y-bearing spermatozoa as a method of enriching sperm populations for insemination. Laser beams are passed across a flowing array of specially dyed sperm in order to separate the 2.8% heavier X- from Y-bearing sperm to produce an X-enriched sperm sample for insemination. At present only heavier X-bearing sperm can be separated effectively, making selection of females alone a likely possibility (3, 4). Until more research is done, it is not possible to say whether flow cytometry or other methods of preconception gender selection would safely permit females or females and males to be selected with such a high degree of accuracy that it would justify use for that purpose.

THE ETHICAL DILEMMA RAISED BY PRECONCEPTION GENDER SELECTION

The Ethics Committee's report on sex selection and preimplantation genetic diagnosis identified several general ethical concerns with

Received January 18, 2001; revised and accepted January 18, 2001.

Reprint requests: No reprints will be available.

0015-0282/01/\$20.00
PII S0015-0282(01)01756-3

sex selection. These include “the potential for inherent gender discrimination, inappropriate control over nonessential characteristics of children, unnecessary medical burdens and costs for parents, and inappropriate and potentially unfair use of limited medical resources” (1). The report also identified concerns over possible sex ratio imbalances and “psychological harm to sex-selected offspring (i.e., by placing on them too high expectations), increased marital conflict over sex selective decisions, and reinforcement of gender bias in society as a whole (1).”

At the same time, the Ethics Committee recognized that parents have traditionally had great discretion in their procreative decisions and that sex selection might provide “perceived individual and social goods such as gender balance or distribution in a family with more than one child, parental companionship with a child of one’s own gender, and a preferred gender order among one’s children (1).”

This report discusses how these competing concerns should be balanced if safe and effective preconception techniques to select the gender of offspring become available.

ARGUMENTS FOR PRECONCEPTION GENDER SELECTION

The argument for permitting preconception gender selection is that it serves the desires of couples who have strong preferences about the gender of their offspring, some of whom might use abortion or embryo selection to realize their goal or be unhappy with children of the undesired gender. In some cases, couples with one or more children of a particular sex might strongly prefer to have a child of the opposite sex and might choose not to have another child unless they can use preconception gender selection to provide gender variety in their offspring. In other cases, they might have such strong preferences for a first-born child’s gender that they might resort to postconception selection methods or not reproduce at all unless preconception methods are available.

Because the strength of their desire for a child of a particular gender is largely self-imposed, one can question whether their desire alone justifies acceptance of their preference. Proponents of the choice, however, would argue that ethics, law, and social practice, while not regarding procreative liberty as absolute or unlimited, ordinarily accord couples and individuals wide choice in reproductive matters. They argue that unless substantial harm to others resulted from a reproductive practice, couples should in many circumstances be permitted to act on preferences for children of a particular gender. However, these proponents of choice also recognize that just because a practice falls within the scope of one’s personal liberty does not mean that that practice is good in itself or that it should be positively encouraged, but disagreement with a choice is not by itself a sufficient basis to prohibit it.

ARGUMENTS AGAINST PRECONCEPTION GENDER SELECTION

Although preconception selection methods do not destroy embryos and fetuses or intrude on a woman’s body as prenatal or preimplantation sex selection does, these procedures do raise other important issues. One concern is the potential of such techniques to increase or reinforce gender discrimination, either by allowing more males to be produced as first children or by encouraging parents to pay greater attention to gender itself. A second concern is the welfare of children born as a result of gender selection, who may be expected to act in certain gender-specific ways when the technique succeeds and who may disappoint parents when it fails. A third concern is societal. Widely practiced, preconception gender selection could lead to sex ratio imbalances, as have occurred in some parts of India and China because of female infanticide, gender-driven abortions, and a one-child family policy (5–7).

Another societal concern is the emphasis that gender selection places on a child’s genetic characteristics, rather than his or her inherent worth. This emphasis contributes to the commodification of offspring that many critics of assisted reproduction decry. Such practices also lead physicians to use their skills for nonmedically indicated purposes, thereby possibly diverting medical resources from more important uses.

EVALUATION OF ETHICAL AND SOCIAL ISSUES

Concerns about sex ratio imbalances, the welfare of offspring, and instrumentalizing reproduction may be less central to debates over nonmedical uses of sex selection than whether such practices would contribute to gender discrimination. If few persons choose to use preconception gender selection, sex ratio imbalances may never be a problem. If imbalances did occur, gender preferences would likely alter to bring the two genders into a better balance (8, 9). If the threat of sex ratio imbalances were severe, laws or guidelines that required providers to select for males and females in equal numbers could be enacted, without unjustifiably violating procreative liberty.

It may also be difficult to show that individual children born after preconception sex selection were harmed by the technique. If the child is born with the desired gender, the child presumably will be wanted and loved. Parents who choose preconception sex selection should be informed of the risks that the technique will not succeed and counseled about what steps they will take if a child of the undesired gender is born. If counseling of couples indicates that they are committed to the well-being of the child, whatever its gender, the risk to children may be slight. However, even with counseling and a couple’s claim that they will accept the resulting child, whatever its gender, there is still the risk

that some couples will abort a fetus or reject a child of the undesired sex. Also, parental desires to select a child's gender, particularly if motivated by a wish for gender variety in the family, do not mean that the parents have such rigid expectations of gender stereotypical behavior that the child is likely to be harmed.

The question of diverting medical resources to nonmedical purposes must be evaluated in the context of a medical system in which physicians often provide services that have no direct medical benefit but that do have great personal value for the individual. Given the acceptance of these practices, one could not, without calling that system into question, condemn a practice merely because it uses medicine for lifestyle or child-rearing choices. Nor is preconception gender selection likely to consume a substantial amount of resources, particularly if used only to conceive children of the gender opposite to that of an existing child or children. As a relatively low-cost procedure (intrauterine insemination after mechanical separation of sperm), preconception gender selection is unlikely to drain substantial resources from the medical system.

The question of whether any nonmedical use of sex selection is inherently discriminatory is more complicated. Because women in many societies have been subject to disadvantage and discrimination solely because of their gender, some investigators have argued that any concern with gender, male or female, is per se wrong and should be discouraged regardless of whether one can show an intention to harm women or that adverse consequences for them will likely result (10, 11). Proponents of this view believe that even if one's intention in using preconception gender selection is not to denigrate or harm women, acting on the basis of any gender preference for offspring lends credence to existing gender stereotypes. Indeed, those stereotypes are likely to have created or influenced individual and social preferences for rearing children of different genders. Under this view, a couple with three boys who now would like to have a girl may be acting on the basis of deeply engrained sexual stereotypes that harm women. Similarly, a couple who wanted to have only a girl might be contributing to unjustified gender discrimination against both men and women, even if they especially valued females and would insist that their daughter receive every benefit and opportunity accorded males.

The opposing view in favor of preconception gender selection asserts that gender "similarity and complementarity are morally acceptable reasons for wanting a child of a certain sex (12)." This view is based on the claim that there are actual physical and psychological differences between male and female children that affect parental child-rearing experiences (13–18). These well-established differences provide legitimate reasons for some couples to prefer to rear a girl rather than a boy, or vice versa, without reflecting discriminatory attitudes or inherently disadvantaging women,

particularly if they already have one or more children of the opposite gender.

Under this view, a couple who sought to have a child of a particular gender because they recognize that the experience of rearing a child of one gender is different from the experience of rearing a child of a different gender might do so without thinking that one gender is superior to another. If preconception selection occurred in a social and legal context where equal rights and status of women are respected, its use would not be likely to deny women the equal rights, opportunities, or value as persons, the disallowance of which constitutes unacceptable gender discrimination.

The Committee believes that reasonable persons might legitimately disagree over which view of gender discrimination best agrees with values of equal respect and concern for both genders. Until a more clearly persuasive ethical argument emerges, or there is stronger empirical evidence that most choices to select the gender of offspring would be harmful, policies to prohibit or condemn as unethical all uses of nonmedically indicated preconception gender selection are not justified. Nor would it be unethical for parents to use or for physicians to provide safe and effective means of preconception gender selection to have a child of the gender opposite to that of an existing child or children. Similarly, it would not be unethical for parents to prefer that their first-born or only child be of a particular gender because of the different meaning and companionship experiences that they expect to have.

COMMITTEE RECOMMENDATIONS

Until a method of separating X- and Y-bearing producing sperm is established as safe and effective in statistically valid, properly executed clinical trials, preconception gender selection should be labeled as experimental and treated accordingly. If such trials show that preconception gender selection based on sperm separation or other techniques is safe and effective, the most prudent approach at present for the nonmedical use of these techniques would be to use them only for gender variety in a family, i.e., only to have a child of the gender opposite of an existing child or children. If the social, psychological, and demographic effects of those uses of preconception gender selection have been found acceptable, then other nonmedical uses of preconception selection might be considered.

If flow cytometry or other methods of preconception gender selection are found to be safe and effective, physicians should be free to offer preconception gender selection in clinical settings to couples who are seeking gender variety in their offspring if the couples [1] are fully informed of the risks of failure, [2] affirm that they will fully accept children of the opposite sex if the preconception gender selection fails, [3] are counseled about having unrealistic expectations about the behavior of children of the preferred gender, and

[4] are offered the opportunity to participate in research to track and assess the safety, efficacy, and demographics of preconception selection. Practitioners offering assisted reproductive services are under no legal or ethical obligation to provide nonmedically indicated preconception methods of gender selection.

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