OPINION

Gamete donation in a system of need-adjusted reciprocity

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A new paradigm to collect and allocate donor gametes is proposed. In the system, called indirect mirror exchange, the partner of the person who needs donor gametes, donates in exchange for bonus points that are awarded to the infertile person. All candidate recipients of donor gametes are ranked on a waiting list and receive points according to waiting time, medical urgency, phenotypic resemblance and contribution. According to the principle of fairness, persons who benefit from a system are obliged to contribute their share. However, strict reciprocity is rejected as unfair. A contribution by the couple is thus not a necessary condition for access to the waiting list. The system of reciprocity is high enough to move them to the front section of the waiting list.

Key words: gamete donation/mirror exchange/need/oocyte/reciprocity

Introduction

Several countries including the UK, the Netherlands and Switzerland have adopted new legislation which abolishes anonymity of gamete donors. Although it is difficult to predict how this will affect donor recruitment in a specific country, surveys indicate that, in Western Europe, this will lead to a sharp drop in candidate donors (Pennings, 2001a). The scarcity of donor gametes stimulates the discussion about acceptable systems of recruitment and allocation. The most frequently proposed solution is to move towards payment. An intermediate system would be to offer an all-inclusive allowance to gamete donors for risks, inconveniences and time loss comparable with the compensation for volunteers in clinical trials (Craft and Thornhill, 2005). However, the tariff system used in medical trials is generally seen as payment for donor gametes and the market is not an acceptable solution for unacceptable. Since altruistic donation cannot cover the demand for donor gametes and the market is not an acceptable solution for ethical reasons, a new paradigm is proposed. This paradigm, mirror exchange of gametes within a system of need-adjusted reciprocity, is not an alternative for altruistic donation but a complementary system focused on candidate recipients.

Mirror exchange

Within the practice of oocyte donation, a large variety of systems exist for recruitment of donors and allocation of oocytes. This variety is largely because the shortage of oocyte donors has hampered the application of this option from the start. The system proposed here is a variant of cross donation performed in a number of countries for donor oocytes. The system implies that the donor recruited by recipient X donates to recipient Y and vice versa. In France, cross donation (labelled ‘personalised anonymity’) is the only accepted form of egg donation because the law guarantees anonymity of the donor. Without the imposed anonymity, most of the donors would probably donate directly to the person who recruited them. Still, cross donation is also performed for social and psychological reasons. In Belgium, almost one-third of recipients who brought their own donor opted for cross donation because they wanted to establish explicit boundaries between the two families (Baetens et al., 2000). Although both donors in cross donation are altruistically motivated (i.e. they donate out of unselfish concern for the welfare of others), this system is nevertheless a type of exchange. A person X gives to another person in exchange for an equivalent gift by the donor of the recipient to the person for whom X donated in the first place.

The new variant is called ‘mirror exchange’ (Fig. 1). There is a direct and an indirect version of this system. In the direct form, the exchange takes place between two identified couples. The partner of the person in need of gametes donates in exchange for the gametes of the opposite sex (mirror gametes). Simply put, the female partner of an infertile man becomes an oocyte donor in exchange for donor sperm. The same applies to the male partner of a woman who needs donor oocytes. If the couple is presented as two partners, one could say that the infertile person recruits his or her own partner as a donor and thereby receives priority or immediate access to the needed gametes in return. Just as in the case of paired kidney exchange or crossover transplantation for organs, the recruited person cannot donate directly to the intended recipient (Ross and Woodle, 2000). The idea was originally proposed by Dr Henk Ruis at the fertility clinic Stichting Geertgen in the Netherlands.

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Figure 1. Direct mirror exchange.

Figure 2. Indirect mirror exchange.

In indirect mirror exchange (Fig. 2), the partner donates to a pool of gametes that are allocated to candidate recipients on the waiting list. The donation is considered as a contribution to the system and is awarded with a number of bonus points for the donor’s partner on the mirror waiting list (Sells, 1997).

The term ‘mirror exchange’ is preferable to ‘partner donation’ because the general structure of the scheme fits the framework of reciprocal help better than the framework of donation. In particular, the quid pro quo element in the transaction conflicts with the core idea of altruistic donation. However, the presence of a personal benefit for the donor does not automatically mean that the model would be morally problematic. Self-interested reciprocity is present in many co-operative schemes. Other structures in our society, like health insurance, rely on such a win–win system in which contributors have a mutual advantage.

The principle of fairness

The practice of gamete donation in Europe relies on altruism. Donating gametes, however, is not a moral duty for citizens in general because the act does not fulfil the strict conditions of a duty of beneficence (Beauchamp and Childress, 2001). The main condition for a duty of beneficence may be violated is that the helping act should not entail serious costs for the helper. Considerable costs would be involved when the person holds moral convictions that condemn the use of donor gametes. He or she may believe that the genetic relationship generates parental responsibility. The ethical situation is entirely different, however, for candidate recipients of gametes. Candidate recipients are bound by special rights and obligations through voluntary participation in the system (Rawls, 1971). According to the principle of fairness, one is obligated to contribute one’s fair share of the costs if one has voluntarily accepted the benefits conferred by the co-operative scheme (Simmons, 1979). The candidate recipients who benefit from the contributions of others owe something to the other participants. In general, fairness does not require in-kind reciprocity (i.e. contributions in other domains of social life and through other channels would also be possible) but in-kind contributions, because of their direct support to the practice of gamete donation, are a strong reason to award a reasonable bonus.

The mirror exchange system does not rely exclusively on the principle of reciprocity. In a system of strict reciprocity, a person would only acquire a right to receive if and only if he or she contributes (Buchanan, 1990). There are several reasons to adjust strict reciprocity with considerations of need and equality. First, some people will be excluded from donating for medical and/or genetic contraindications. This is for instance the case for older women. In order to prevent unjustified exclusion of these people, contribution should not be a necessary condition for access to the waiting list. Although people with medical contraindications will still be disadvantaged because they will not receive bonus points, this cannot be a decisive counterargument as similar forms of setback are present in the currently accepted system of self-recruited donors. Older women or women with few social relationships have much less chance of finding a donor because they have few female family members or friends of the right age whom they can ask to become a donor (Baetens et al., 2000). Secondly, although candidate recipients of donor gametes will not hold moral convictions that condemn gamete donation, they may have more specific reasons for not wishing to donate. Some of these reasons can be eliminated because they are irrational or violate the impartiality rule. However, at least one rational reason can be found in the context of gamete donation. Parents who do not intend to disclose the donor origin of their child would seriously jeopardise this goal if they donate themselves. If the parents of the child created with their genetic material inform the child, this child may seek personal contact with the donor 18 years from now (if the donor is identifiable). Such contact obviously also threatens the secret within the donor’s own family. This reason does not apply in countries where donor anonymity is guaranteed; however, other valid reasons for wanting to be a recipient but not a donor cannot be excluded.

The need-adjusted form of reciprocity expresses the more limited and balanced thesis that the person’s contribution gives him or her priority but not exclusivity to the benefits of the scheme. Those who cannot or do not want to contribute their gametes still have a right to gametes, but that right is not grounded in reciprocity but in need. This adjustment not only eliminates the harsh consequences of strict reciprocity, but recognises the fact that non-contributors may also need donor gametes to create their family. The system should redress or avoid as far as possible morally arbitrary disadvantages. If an infertile man happens to be married to a woman over
38-years-old, she can no longer serve as a donor and he would as a consequence lose the possibility to receive donor sperm. This would be unfair.

**Bonus points**

A points system became the preferential solution in the context of organ allocation as well as in the more general context of the distribution of scarce medical products and services (Schmidt, 1998; Starlz et al., 1989). The main advantage of a points system is that it permits several ethical principles to be taken into account simultaneously by balancing the weight of the relevant allocation criteria. It also allows an accurate representation of gradual factors such as waiting time. One should be careful not to include too many factors in order to obtain a practical system which is not too cumbersome for the clinic to maintain and which is transparent for the patients. A points system can be combined with indirect exchange, which is much more flexible than the direct form.

The number of bonus points allocated for the contribution of the partner should be adjusted to the number of points attributed to the other morally relevant elements such as waiting time, medical urgency, primary versus secondary infertility, and phenotypic match (Pennings, 2001b). On the one hand, the number should be sufficiently high to move contributors to the top of the list. This would be consistent with the current practice in which people who recruit their own donor are not even put on the waiting list but get immediate access to gametes. On the other hand, if the reference to the need of candidate recipients is not mere lip service to the principle of equality, the number of bonus points should not be that high that non-contributors would never make it to the top of the list. Non-contributors should be able to reach the top within a reasonable time span, but they will have to accumulate points by waiting longer than contributors. A number of bonus points that corresponds minimally with the points obtained after the mean waiting time seems a reasonable compromise.

**Arguments pro and contra**

The mirror exchange in a system of need-adjusted reciprocity has some important advantages.

It guarantees an increase in the number of donors. Because of the link between candidate recipients and potential contributors, the system will be partially self-regulated—the more infertile couples, the higher the number of donors.

It lessens pressure on clinics and practitioners to pay for gametes. Pressure will increase when the shortage of donors rises sharply after the abolition of anonymity. By offering an alternative for payment, this danger can be averted. This type of benefit in kind cannot be exchanged for money and thus cannot be considered as payment. There are good reasons to condemn direct payment of gamete donors but none of these reasons apply to mirror exchange. The system will not discourage or offend altruistic donors because the nature of the transaction remains non-commercial. It will not lower the special status of the human body and, more in particular of gametes, it will not lead to the hegemony of the market in reproduction. It is unlikely that this inducement will compromise the ability of the donor to consider the implications of his or her contribution fully.

The woman who undergoes the stimulation is personally involved in the infertility treatment. One argument against the application of the mirror exchange is that the woman is subjected to treatment that is medically unnecessary. Two replies can be made: (i) this objection also applies to altruistic donors and most policies are promoting this type of donor; and (ii) if this argument was applied consistently in all circumstances, no woman could be stimulated as part of her own IVF treatment if this treatment was needed for male infertility. If altruistic donors can be subjected to the small risks linked to the hormonal stimulation, then women who are doing this in order to obtain an advantage for their own treatment should be accepted too. Finally, the only acceptable donors left when this criterion was applied as a necessary condition would be IVF patients (where the cause of infertility lies with the female) who donate part of their oocytes. Given the option of cryopreservation of embryos, their number will be very small.

Few people will be better prepared to become gamete donors than gamete recipients. In the past, questions have been raised about the degree of awareness of the frequently childless and young sperm donors. Do they really know what they are doing? Although age and fertility contribute to the well-informed nature of the decision, candidate recipients of donor gametes have surely reflected deeply on the practice and the underlying idea of separating social and genetic parenthood. Moreover, and contrary to the situation in egg sharing, the donation of gametes will not conflict with the donor’s personal values and moral convictions about reproduction since they intend to use donor gametes for their own reproduction.

Although self-interest is involved, there is no reason to reduce the donor’s motivation completely to this element. People who are conscious of the suffering caused by infertility will more easily accept to help others. The presence of a benefit to the couple in bonus points does not exclude altruistic motives.

Whenever very valuable gifts are given, the possibility of reciprocating is raised. If a person receives the gift of life in the form of an organ or a child in the form of gametes, one often wonders how the recipient is ever going to pay off his or her debt. Being able to give something back, even to other people than those who helped them, is not only a way to strengthen the social fabric of society but also a way to facilitate acceptance of the gift.

The following objections can be raised against the system.

The unequal ratio of egg and sperm donors might generate a problem. It is difficult to predict how numbers will evolve after the introduction of the mirror exchange system. When significantly more male partners agree to become sperm donors than female partners agree to become oocyte donors, a new though reduced waiting list will come into existence for oocytes. This does not constitute a problem, however, since no guarantee is given that the contributor will have immediate access to donor gametes. Contributors will have moved up on the list and will obtain gametes earlier than those in the same circumstances who do not contribute.

The second imbalance is the unequal effort expected from female partners compared with male partners. This discrepancy in effort is caused by biological differences and is not remediable. Moreover, it seems irrelevant since both couples obtain an equivalent benefit—namely the gametes they need for reproduction.
Some people will not have a chance to donate due to medical or genetic reasons. However, the number of people that would want to donate but will not be able to give will be small. The window for conflicts between objective impossibility and willingness is limited. Some categories, which in most other systems are excluded or discriminated such as single women and lesbian couples, fit perfectly into the mirror donation since they may present themselves or their partner as donors. Moreover, people who cannot donate are not banned from the waiting list; they merely cannot obtain the extra bonus points for donation.

The preferred status is not only accorded to those who actually donated gametes but is extended to those who sincerely intended to contribute. Bonus points should be awarded to the male even when hormonal stimulation of the female partner has to be stopped for medical reasons or when no oocytes are collected at the end. The same applies to the male partner who honestly volunteered but finds out after examination that his sperm quality makes him unfit as a donor. The system should reward the sincere willingness to contribute rather than the actual contribution. Non-contributors move to the end of the line and will have to wait longer than contributors. However, it is not certain that they will have to wait longer than they do now. Whether or not there will be an extension of the waiting time for non-contributors depends on the success of the system. From the moment that more couples can be helped by the contributions than the contributing couples themselves, the system may actually reduce the waiting time for everyone, including non-contributors. This is quite likely since there is no one-to-one relationship between donor and recipient. Depending on the local practice, sperm donors are used for several pregnancies. In a properly designed system, even egg donors can be used for two or three recipients simultaneously (Englert et al., 1996).

When more donors become available at home, couples will no longer be forced to travel abroad to buy oocytes or sperm. This not only makes treatment easier on the patients, but also permits the state to control safety and quality standards.

Moral pressure may be exerted on the potential donor both by the partner who needs the gametes and by the fertility clinic. Studies have shown that, for organ donation, strict adherence to the conditions of informed consent cannot be maintained (Karrfelt et al., 1998; Beauchamp and Childress, 2001). However, the obligation generated by the participation in the arrangement is not a deviation from the norm of volunteering, but a structured and justified part of our ethical code: due to the principle of fairness, candidate recipients have a prima facie duty to contribute.

People will be penalized for holding certain moral positions. For instance, those who believe that a child should not be informed of his or her donor origin will find it difficult to join in. This is correct but this effect is due to the moral position dictated by law. The penalization is a consequence of the legislation on donor anonymity, not of the proposed system.

Conclusion
The practice of gamete donation is seriously hampered by the shortage of donors. Although most people would agree that altruistically motivated donors are the ideal, reality forces clinics and patients to look for alternative modes of recruitment. Payment is the most cited solution. However, the focus on donation has obscured complementary frameworks like reciprocal help and co-operation. Purely altruistic motives have gradually been promoted as the sole acceptable motives. Alternative models currently used in other social systems such as health care insurance should be allowed.

Mirror exchange is a system based on the principle of fairness, which obliges candidate recipients to contribute their share to the system from which they benefit. Since strict reciprocity would lead to unfair decisions in some situations, a system of need-adjusted reciprocity is proposed. The contribution of candidate recipients is rewarded by bonus points equivalent to at least the mean waiting time. Contribution is not a condition for entering the waiting list but is one factor among others for climbing up the list.

References