To give or sell human gametes - the interplay between pragmatics, policy and ethics

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Abstract

The ever-growing acceptance and use of assisted human reproduction techniques has caused demand for "donated" sperm and eggs to outstrip supply. Medical professionals and others argue that monetary reward is the only way to recruit sufficient numbers of "donors". Is this a clash between pragmatics and policy/ethics? Where monetary payments are the norm, alternative recruitment strategies used successfully elsewhere may not have been considered, nor the negative consequences of commercialism on all participants thought through. Considerations leading some countries to ban the buying and selling of sperm, eggs and embryos are outlined and a case made that the collective welfare of all involved parties be the primary consideration in this, at times heated, debate.

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Introduction

Mr and Mrs A are with their gynaecologist, Dr B. Mr A is azoospermic—has no sperm—and cannot contribute to the conception of a child. The use of semen from another male is discussed, but Dr B advises there is very little available and many other couples ahead of them on the waiting list. Dr B's clinic has great difficulty recruiting semen donors. Mr and Mrs A offer to pay a provider as they are desperate to have a child. Dr B sees the pain and anguish of the couple and knows that by offering money to students and other men, he can probably recruit more providers and thereby relieve the distress.

Until relatively recently, Dr B, and others like him, could make the decision over whether to offer financial incentives to potential sperm providers. This was viewed as a professional matter. Dr B, who lives and works in England, now finds that he and his colleagues must abide by the decisions of a government-appointed body, the Human Fertilisation and Embryo Authority (HFEA). The HFEA first addressed the issue of donation versus payment in 1993¹ and, as recently as its 1998 annual report, reiterated that dona-

tions should be a gift, freely and voluntarily given and therefore that payments to donors should be phased out.² However, in December 1998, the Chair, Ruth Deech, wrote that the responses to a consultation organised by HFEA indicated "that the removal of payments would seriously jeopardise the supply of sperm donors" and that, as a result, payments would be allowed.

This scenario highlights the issues to be considered in this paper:

the role of professionals in making decisions on gamete provider recruitment issues.

the role and function of governments in determining a policy on payment or non-payment for gametes.

to what degree ethical considerations should play a part in the decision making.

Donor insemination (DI) in which a fertile man provides semen for an infertile couple or individual was first reported by Addison Hard in 1909. Occyte provision by a fertile woman for an infertile couple dates back little more than ten years. Records of the origin and history of DI, indicate that semen was supplied with no money changing hands. It is therefore appropriate to describe this first provider as a "donor".

As the practice of DI increased, semen supply became a major issue. My discussions with doctors suggest that, as long as they could utilise friends, colleagues and informal networks, then supply and demand was not a problem. When these sources became insufficient, students were seen to be a natural target group for recruiting. Providing a financial incentive to "donate" was thought to be both appropriate and attractive.

Donor insemination was shrouded in secrecy for much of its early history and a culture developed where the semen provider's involvement was limited to the physical act of supplying gametes. Payment for this act could be construed as representing closure of the transaction⁵ and provider anonymity was guaranteed.

The culture surrounding all forms of assisted human reproduction (AHR), including DI and oocyte provision, is, however, now changing dramatically. Today there is much more emphasis on openness and sharing of information between the parties involved and within the family thereby created. ⁶⁻¹²

Governments in most Western countries have established committees or commissions to investigate, report and advise on developments in AHR.¹³ Policies have been developed and, in an increasing number of countries, legislation passed. The resulting patchwork of varying regulation has led, among other things, to women and couples travelling overseas to obtain services unobtainable in their own country. The situation is therefore increasingly complex and gives rise to interesting considerations of the interplay between pragmatics, policy and ethics.

The pragmatics of supply and demand

A major frustration experienced by gynaecologists is the inability to recruit enough gamete providers to meet the demand.¹⁵ In relation to egg donation, this was summed up by Professor Ian Craft who said:

"I favour egg donation without financial reward, but the demand for eggs far outstrips the supply from women who donate for altruistic reasons. The end results are an inordinate delay, often of 1-2 years, for treatment for women who are destined to be barren, and the proliferation of private organisations that put donors and recipients in contact for financial reward.

"My preference is probably unrealistic in today's world where money determines health care. Our prime concern is to provide an efficient, clinical service." 16

Hunt's overview of the conference on payment for donors organised by the HFEA¹⁷ reports that Professor Ian Cooke, "... referred to current research providing evidence that sperm donors are motivated by financial gain. So the withdrawal of payment would have a major impact, possibly leading to the disappearance of DI as a treatment option".

Professors Craft and Cooke are clearly experiencing frustration similar to that Dr B faced with Mr and Mrs A. There is little doubt that doctors in general, and gynaecologists in particular, want to relieve the anguish that results from infertility. Donor insemination provides a relatively easy way to deal with that anguish. No major technological intervention is necessary to collect and use the semen although, in the UK, donated sperm must be cryopreserved for six months and authorised

for use only after the donor has tested HIV-negative at both ends of that timespan. In other countries the use of fresh sperm from HIV-screened donors is permitted.

The relative simplicity of this physical solution does, however, mask the complexity of the psychosocial and ethical issues involved. Concerns centre on the gamete providers, the methods used to recruit them and on the offspring and families that result from the interventions.

As long as the focus remains on the needs of infertile patients and on the here-and-now issues, the decision making appears to have the same relative simplicity as the physical process. That there are issues and persons beyond the presenting patients often seems to escape the consideration of gynaecologists.

In a recent book chapter G M Lockwood, a British gynaecologist, states: "Commercial egg donation is far from being the morally dubious activity that it is often claimed to be and, in fact, holds the key to the current severe shortage of donated eggs". ¹⁸ "While Lockwood's chapter was designed to look at both the practical and ethical issues involved in gamete donation, the major focus of her chapter is on practical matters, namely the need, as she perceives it, to focus on the "deserving group of infertile women". ²⁰ The focus has now narrowed to exclude the partners of the women—if these exist.

The pragmatic considerations are well summed up by Gazvani, Wood, Thomson, Kingland and Lewis-Jones²¹ who, whilst recognising that "... altruism is by far the most attractive and ethically acceptable reason for donation...", argue that the impact of any withdrawal of payments for semen providers on their patients "... needs to be considered very carefully before further changes are instigated".²² In a survey of their clinic's donors by Gazvani and colleagues, 95% of respondents firmly indicated that they would cease donating if payment was withdrawn. These authors add weight to their position by reporting patient concerns that legislation banning payments to donors might reduce the availability of treatment.²³

Survey of attitudes

Lyall, Gould and Cameron undertook a survey of attitudes towards payment of "sperm donors". Their respondents fell into three groups, the general public, students (potential donors) and infertile patients (potential recipients). The majority of the public were not in favour of payment (58% No, 38% Yes), potential donors were 67% in favour, 29% against, and potential recipients were 52% in favour, 43% against. The authors concluded: "As the majority of both potential

recipients and potential donors feel that the sperm donors should be paid, perhaps the views of these groups should carry significant weight when the decision whether or not to withdraw payment is taken".26 It can be argued however, that propayment viewpoints represented those with a selfinterest, or potential self-interest, in this area. This possibility is not addressed by the authors.

Gynaecologists therefore justify continuation of payments to donors as the only way they can meet the needs of persons requiring third-party gametes to procreate, a point that clearly influenced the HFEA in regard to its recent decision.

The sources cited in this discussion have all been British and this is by intention as the issue has been so hotly and recently debated there. However, other countries have witnessed similar debates. In 1996 the Canadian government decided to prohibit the "buying and selling of eggs, sperm and embryos".27 "Canadians told the Royal Commission that reproductive materials should not be commercialised because such practices violate the principles of respect for human life and dignity . . . this prohibition will be phased in over time to ease the transition from the current commercial system to an altruistic system."28 An election precluded enactment of this and other AHR legislation, but the bill will soon be re-introduced.

Medical groups have expressed considerable concern regarding this proposal. The Canadian Fertility and Andrology Society (CFAS), in a written submission to the parliamentary standing committee on health,²⁹ said: "(the) Bill does not represent mainstream thought among health care professionals or patients, nationally or internationally" and "...the legitimate expenses of gamete donors . . . must be reimbursed"31 and in an earlier information release: "The CFAS is concerned that if semen donors are not compensated for the inconvenience of donation the supply of sperm will not meet the needs of infertile patients".32 The basis of the argument shifted from payment to compensation, but, in essence, the contention remains the same: without some kind of monetary reward/compensation/payment there will be a shortage of supply.

'Disgusting development'

Recently a Canadian newspaper ran a story entitled, "Human egg trade lures elite students". 33 "... infertile couples and fertility clinics are staking out university campuses to hunt for pretty young women as egg donors."34 Students are reported to be being offered sums ranging from \$2,000 to more than \$20,000 depending on the purchaser and the number of eggs. In the same article, Patricia Baird, who chaired the 1993

Canadian Royal Commission on New Reproductive Technologies, is quoted as saying: "It's a disgusting development". 34 It is of interest that there is a bill35 before the New Zealand parliament which will ban payments. This does not create a problem for clinics, most of which have not been paying "donors" for some years.

A further problem with gamete-provider recruitment based on monetary reward is the increased cost to the patient, which is generally beyond the reach of all but the wealthy. One "solution", has been the recent advent of egg-sharing. Women undergoing in vitro fertilisation (IVF) are offered free or heavily discounted services if their "spare" eggs/embryos are made available for use by other patients. Space constraints do not allow for discussion of this issue in the current paper.

The advent of government intervention

The rapid technological and scientific developments in AHR have stimulated governments to set up investigating commissions/committees tasked with making recommendations on policies and legislation. The European Commission explored the extent to which a shared European Community policy might be possible. 36 Walters 37 described the period from 1979 to 1988 as the "heyday of guideline writing".38

Government-initiated inquiries are, in general, responding to concerns that Patricia Baird39 described as, "individual decisions regarding use of reproductive technology (which) can be personally beneficial yet have undesirable collective consequences". 40 The focus and concern with "collective consequences" is the appropriate domain of governments. Baird argues that government must act " . . . to guard citizens' interests", and that it does this "... by ensuring regulation and accountability in the field". 41 She also argues that the allocation of collective resources, the determination of justice over service access issues, and the impact of commodification and commercialisation on human dignity, collectively provide the authority for state involvement. 42 Health Canada reinforces this point: "Canadians have made it clear that they are looking to the Federal Government to manage these technologies in a way that protects those most affected and reflects our collective values".45

Where there is a conflict, or potential conflict of interests, between the various parties involved in third-party reproduction, 44 gamete providers, recipients, offspring and health professionals, most reports conclude the interests, needs, rights and welfare of the offspring-usually referred to as children—should be paramount. Freeman has recently presented a very helpful overview of this area.45

Governments' involvement in this area has not been greeted enthusiastically by all doctors in the field. Primarily, objections relate to state intervention in an area of decision making that had been their exclusive preserve—or at least, theirs and their patients'. State "intrusion" may therefore be seen to threaten their autonomy and, by implication, to question their professional judgment.

Some policies may be more widely accepted by doctors than others. Proposals to ban payment for gametes have, as indicated earlier, triggered widespread opposition. The pragmatic need to recruit "donors" so that a service can be provided, so that Mr and Mrs A can have the child they so desperately want, seems convincing. Johnson, in his very helpful discussion of the HFEA's thinking makes a distinction between decisions on "... an issue of principle and on an issue of practice". 46 47

It is fair to say that the committees and commissions were primarily concerned with principles, whereas doctors are primarily concerned with pragmatics. The significance of the HFEA consultation document is that principles are now being operationalised as practice and impacting on what was formerly the exclusive domain of clinicians. High-sounding notions of non-payment and altruism are no longer empty slogans.

Daniels and Hall have discussed recruitment issues, given the move towards banning payment, and argue that a system based on the self esteem of gamete providers should be considered as a replacement for monetary recompense. 48 What supporters of payment do not realise, or do not acknowledge, is that a system of non-payment for gamete donation has operated successfully in France for over 20 years.

The contribution of ethics

The 1998 HFEA consultation document on the implementation of withdrawal of payments to donors⁵⁰ states that: "In developing its policy, the HFEA took into account how payment might affect the values associated with donation".51 Values therefore played a major role in their deliberations and led to two principles:

- (1) fully informed consent, free from any inducement or pressure, is fundamental to gamete donation; and
- (2) the potential for human life inherent in a donation made with the specific intent of producing children should be respected.

It was stated that: "HFEA members were concerned that payments to sperm or egg donors could jeopardise these principles ...".52 These principles have a remarkable similarity to the ethical principles of respect for persons and doing no harm. The principle of autonomy raises debate that we shall return to later. In announcing the recent HFEA decision, Ruth Deech stated that "we do not feel that payment of £15 is so wrong that we are prepared to threaten the entire service". 53 With this decision we see the introduction of degrees of "wrongness".

Controversial area

Radin argues that market inalienability—that which is not to be sold—is grounded in noncommodification of things important to personhood.⁵⁴ Is it possible to show respect for a person when we buy and sell major components of his or her personhood? This question raises the debatable issues of personhood, gametes as major components of personhood, and the relationship of gametes to personhood. This paper cannot discuss these issues in the detail they deserve. Suffice it to acknowledge that this is a controversial area, with writers such as Robertson⁵⁵ arguing that it is ethically acceptable to pay gamete providers, as the needs of recipients have priority: "... ethical objections to payment must be balanced against the need to pay women to assure an egg supply for needy recipients and to treat donors fairly". 56 This position is in line with his views on the central importance of autonomy.

In a recent book chapter,⁵⁷ Macklin states that "arguments on both sides of the issue are persuasive, making it difficult to arrive at a clear resolution of the problem".58

Radin would argue that commodification of human gametes is inappropriate but provider recruitment in many countries is firmly in the marketplace with commercial sperm banks, advertisements offering large fees for gamete providers and legalised paid surrogacy. However, all countries forbid buying and selling of children and most jurisdictions similarly ban trade in embryos. That prohibition has not now been extended to gametes in the UK despite the HFEA's decision that respect for personhood included the "potential for human life".

Trading in gametes is justified by viewing them as simply a means to an end. Shenfield and Steele describe this pragmatic viewpoint as one which sees trading in gametes as a trade designed to meet the needs of the recipients and, possibly, those of the gamete provider and the clinician.⁵⁹ This provides additional grounds for objecting to commodification rather than justifying it.

Thomas Murray contrasts the world of commerce with the world of family values. 60 . He powerfully articulates the major differences between buying and selling products, and buying and selling children: "thinking of children as property and family life as a series of commercial transactions is a grievous distortion".61 He concludes that "the commercialisation of reproduction is indeed a threat to what we value about families".62

New consideration

The notion of family values introduces an interesting and new consideration. In my clinical experience, as well as my reading of the literature, assisted reproduction where family members provide the gametes never involves monetary payment and appears to be based solely on gift dynamics. 63 If, as I have argued, gamete provision establishes a relationship between provider, offspring and recipients then what is the nature of that relationship and what are the implications for the constituency of the family?⁶⁴ ⁶⁵ Purdie, Peek, Adair, Graham and Fisher⁶⁶ observed: "...a man is a sperm donor for only a short time; after that he is a man with children in someone else's family".67

Perhaps it is the notion of providing gametes to unknown person(s), in a very clinical setting, with the emphasis on semen or eggs as products, that generates the notion of it being a commercial arrangement? Under that concept, the "commodity" provider can expect to be paid. As Novaes observes, by offering payment, the transaction is set up as a commercial one from the outset and therefore the culture of the interaction is based on commodification. No other "understanding" is possible, she argues.68

Commodification facilitates the view of the gamete provider as a marginalised person who contributes only minimally and is simply a means to an end. Some gamete providers happily accept this marginalised role and, where payment was the incentive, it also symbolises the completion of the transaction. However, this "closure" represents only the commercial provider's point of view.

Respect for persons must logically include the offspring that result from gamete provision. Suzanne Rubin has talked of her views of payment to the man who contributed his semen to her parents. She said:

"How do I reconcile my sense of integrity with knowing that my father sold what was the essence of my life for \$25 to a total stranger, and then walked away without a second look back? What kind of man sells himself and his child so cheaply and so easily? . . . I have asked several DI practitioners why young males sell their sperm. To quote one of the directors of a large Los Angeles sperm bank: 'They do it for the bucks, Suzanne.' How do I learn to live without profound pain and disappointment knowing that this man, who is my father and who is my flesh and blood, 'Did it for

This position mirrors Murray's views on family values,61 when children know they owe their existence to an act which was based on a monetary transaction.

It can be argued, and is argued, that owing one's existence to a commercial transaction is no worse than owing it to any number of other bestforgotten activities that result in pregnancies. That DI offspring know their creation was a joyous achievement and not some kind of mistake or deeply regretted accident ought to be a positive. These arguments ignore the reality that any sense of being bought and sold is deeply abhorrent and depersonalising to human beings and is here compounded by the cold, impersonal, fully informed nature of the exchange. Knowing that half one's genetic heritage is owed to an individual who emotionally disowned it in advance is likely to raise disturbing questions for the offspring. Not least among these are: "What does that say about him?" and "What does that say about me - given that half my genetic heritage is from that source?"

Conclusion

Debate concerning the selling or gifting of human gametes is not new. What is new is that governments in two countries, the United Kingdom and Canada have considered, or are considering, legislation which would constrain gamete provider recruitment practices. This paper has outlined some of the major reasons why such moves are proposed and, in an increasing number of countries, put into law. That the proposal was rejected in the UK at this stage does not signal a trend towards commercialisation but rather that, in a rapidly evolving and complex area, easy answers are rare and more research is needed to see if a solution which satisfies both principle and pragmatism can be introduced.

The debate over whether changes are needed, and whether state intervention to enforce those changes is desirable, involves both policy and ethical perspectives and focuses on what "meanings" may or may not be attached to the transfer of gametes.

Gynaecologists, concerned with providing a service to meet the needs of their client group, contend that pragmatic arguments should determine the outcome. They advocate that relieving the distress of their clients should be the paramount consideration, and that the recruitment of gamete providers is a supply and demand issue, with market considerations ruling the day.

Policy and ethical considerations demand, however, that "collective consequences" be carefully examined, and the positions and welfare of all the involved parties, including the offspring that result from the procedures, be considered.

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References

- 1 Human Fertilisation and Embryology Authority. Second annual report. London: Human Fertilisation and Embryology Authoritv, 1993.
- 2 Human Fertilisation and Embryology Authority. Seventh annual report. London: Human Fertilisation and Embryology
- Authority, 1998.

 3 Deech R. Payments to gamete and embryo donors [letter].

 Journal of Fertility Counselling 1999;6,1:6-7.

 4 Gregoire AT, Mayer RC. The impregnators. Fertility and Steril-
- 4 Gregoric AL, Mayer RG. The impregnators. Forming and Science in 1965; 16,1:130-4.
 5 Daniels KR, Lewis G. Donor insemination: the gifting and selling of semen. Social Science and Medicine 1996; 42,11:1521-36.
 6 Cooper SL, Glazer ES. Choosing assisted reproduction. Indiana-
- polis, USA: Perspective Press, 1998: 4.

 7 Daniels KR. Information sharing in DI a conflict of needs and
- rights. Cambridge Quarterly of Healthcare Ethics 1995;4:217-24.

 8 Daniels KR, Taylor K. Secrecy and openness in donor insemination. Politics & the Life Sciences 1993;12,2:155-70.

 9 Daniels KR, Lewis GM, Ruth C. Information sharing in semen
- donation: the views of donors. Social Science & Medicine 1997; 44,5:673-80.

 10 Daniels KR, Haimes E, eds. Donor insemination: international social science perspectives. Cambridge: Cambridge University
- Press, 1998.
- 11 McWhinnie AM. Families following assisted conception. What do we tell our child? Dundee: Inglis Allen (Kirkcaldy) Ltd, 1996.
 12 Spiers J. Children's rights to know their identity: social work
- perspective. In: Bruce N, Mitchell A, Priestley K, eds. Truth and the child: a contribution to the debate on the Warnock report. Edinburgh: Family Care, 1988.

 13 Knoppers B, Sloss E. Recent developments: legislative reforms
- in reproductive technology. Ottawa Law Review 1986;18:663-
- 14 Walters L. Ethics and new reproductive technologies: an inter-national review of committee statements. Hastings Center Report
- 1987: Jun: 3-9.
 15 Lui SC, Weaver SM, Robinson H, Debono M, Neiland M, Kilick SR, et al. Attitudes and motives of semen donors and non-donors. Human Reproduction 1996;11:2061-6.
- 16 Craft I. Should egg donors be paid? British Medical Journal
- 10 Craft I. Should egg donors be paid? Britis Mealcal journal 1997; 314:1400-1.
 17 Hunt J. HFEA conference on payment for donors 1 June 1995. Journal of Fertility Counselling 1995;2,2:19-20.
 18 Lockwood G. Donating life: practical and ethical issues in gamete donation. In: Shenfield F, Sureau C, eds. Ethical dilentity is paid to provide the procedure of the part of the procedure of the procedure of the procedure of the part of mas in assisted reproduction. New York: Parthenon Publishing Group Inc, 1997.
- 19 See reference 18: 29.
- 19 See reference 18: 30.
 20 See reference 18: 30.
 21 Gazvani MR, Wood SJ, Thomson AJM, Kingsland CR, Iwan LJ. Payment or altruism? The motivation behind gamete donation. Human Reproduction 1997;12,9: 1845-6.
- See reference 21: 1845. See reference 21: 1846.
- 24 Lyall H, Gould GW, Cameron IT. Should sperm donors be paid? A survey of the attitudes of the general public. *Human Reproduction* 1998;13,3:771-5.
 25 See reference 24: 772.
- 26 See reference 24: 771. 27 Health Canada. New reproductive and genetic technologies. Ottawa: Minister of Supply and Services Canada, 1996. 28 See reference 27: 40.

- 29 Canadian Fertility and Andrology Society. Response to Bill C-47. Prepared for the parliamentary standing committee on health. 1997 Jan 24.
- See reference 29: 1. See reference 29: 4.
- 32 Canadian Fertility and Andrology Society. Information sheet. 1996 Jun 14.

- Scheney P. Human egg trade lures elite students. The Globe 1998 July 9: A1 and A12.
 See reference 33: A1.
 New Zealand Government. Assisted Human Reproduction Bill, 1998. Wellington: New Zealand government, 1998.
 Glover J. Fertility and the family. The Glover report on reproductive Control of the Co
- technologies to the European Commission. The European Commission, 1989.

- Walters L. Current and future issues in assisted reproduction. Kennedy Institute of Ethics Journal 1996;6,4:383-7.
 See reference 37: 384.
 Baird PA. Ethical issues of fertility and reproduction. Annual Review of Medicine 1996;47:107-16.
 See reference 39: 107.
- See reference 39: 108.
- See reference 39: 109.
- See reference 28: 5.

 Daniels KR. Gamete donation and its impact on relationships. Reproductive Technology Council annual report 1996 (West Australia). Perth: 1996: appendix 4, ii - xi.
- Freeman M. The new birth right? Identity and the child of the reproduction revolution. The International Journal of Children's Rights 1996;4:273-97.
- Johnson M. Payment to gamete donors: position of the Human Fertilisation and Embryology Authority. Human Reproduction 1997;12,9:1839-46.
- 1991;12,9:1839-40.
 47 See reference 46: 1840.
 48 Daniels KR, Hall DJ. Semen donor recruitment strategies a non-payment based approach. *Human Reproduction* 1997; 12,10: 2330-35.
- ee reference 48: 2330.
- 50 Human Fertilisation and Embryology Authority. Consultation on the implementation of withdrawal of payments to donors. London: Human Fertilisation and Embryology Authority,
- See reference 50: 2
- 52 See reference 50: 1.
- 53 See reference 3: 6.
- Radin MJ. Market-inalienability. Harvard Law Review 1987; 100:1849-937.
- Robertson JA. Ethical and legal issues in human egg donation. Fertility and Sterility 1989;52,3: 353-63.
- See reference 55: 360.
- Macklin R. What is wrong with commodification. In: Cohen C, ed. New ways of making babies. A case of egg donation. Indianapolis: Indiana University Press, 1996: 106-21.
- Shenfield F, Steele SJ. A gift is a gift, or why gamete donors should not be paid. *Human Reproduction* 1995;**10**:253-
- Murray TH. New reproductive technologies and the family. In: Cohen CB, ed. New ways of making babies: the case of egg dona-tion. Indianapolis: Indiana University Press, 1996:51-69.
- See reference 60: 52. See reference 60: 68
- See reference 5: 1527.

 Daniels KR. Gamete donation and its impact on relationships.
- In: Reproductive Technology Council annual report 1996 (West Australia). Perth: The Reproductive Technology Council (West Australia), 1996: appendix 4, ppii-xi.

 Daniels KR, Gunby J, Legge M, Williams TH, Wynn-Williams DR. Issues and problems for the infertile couple. New Zealand Medical Journal 1984;97:185-7.
- 66 Purdie A, Peek JC, Adair V, Graham F, Fisher R. Attitudes of parents of young children to sperm donation implications for donor recruitment. *Human Reproduction* 1994;**9**,**7**:1355-8. See reference 66: 1358.
- 68 Novaes S. Giving, receiving, repaying: gamete donors and donor policies in reproductive medicine. *International Journal of*
- Technology Assessment in Health Care 1989;5:639-57. Rubin S. A sperm donor baby grows up. In: Zimmerman A, ed. The technological woman: interfacing with tomorrow. New York: Praeger, 1983: 211-15.